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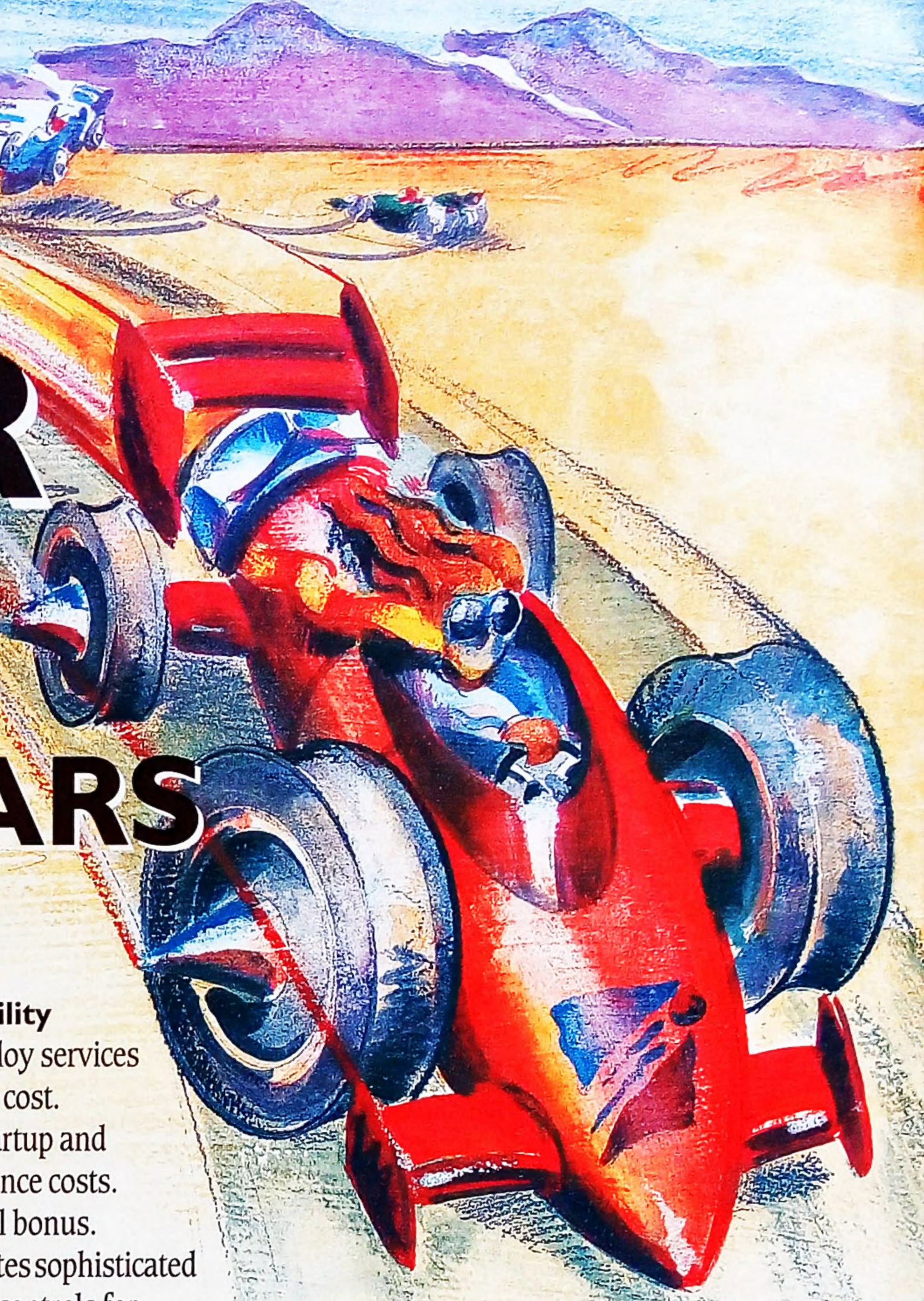

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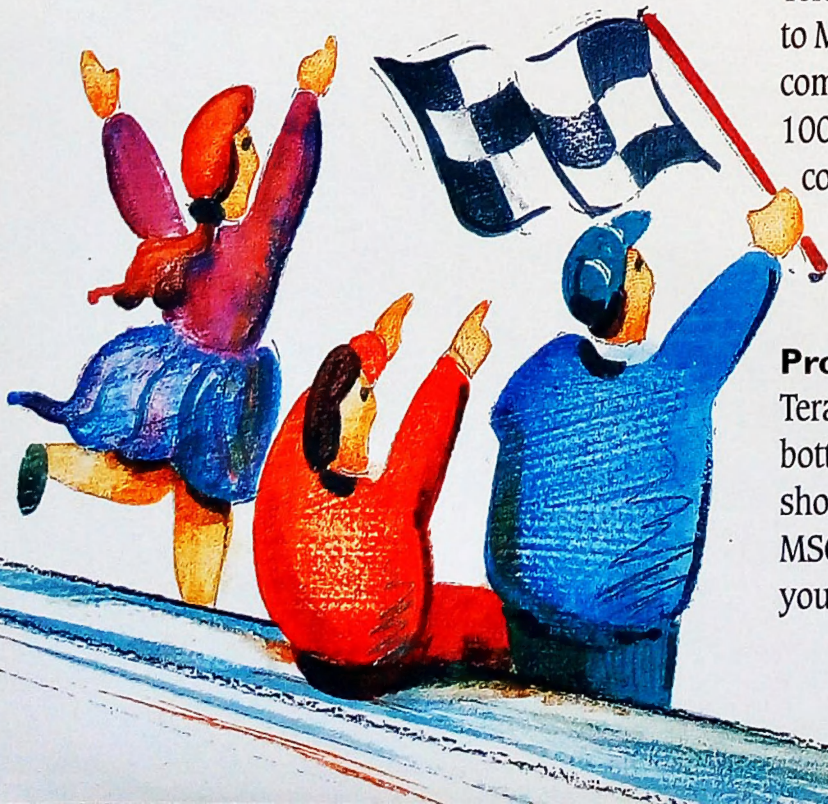

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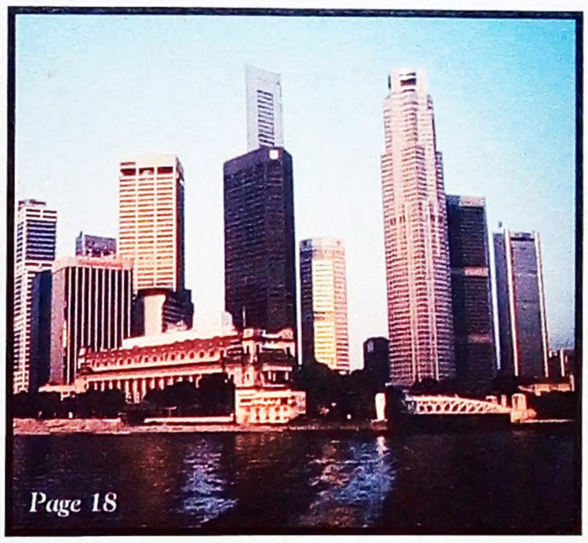
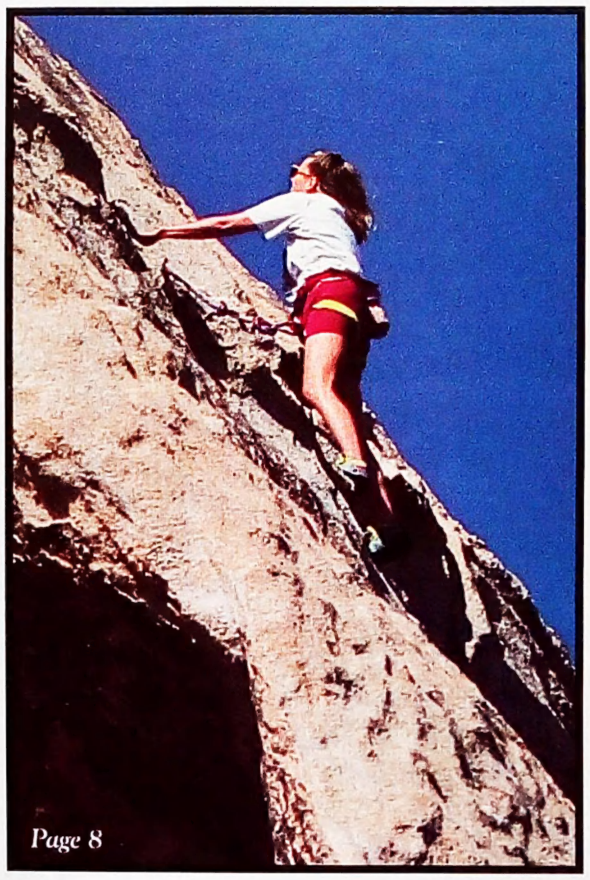


Page 18



Page 8

Page 26

COVER ILLUSTRATION BY LARRY AUERBACH

WORLD **WATCH**

Postcard From the Edge

BY JANET STILSON

So the competition's playing dirty pool, and you figure you'll miss the year-end revenue projection by 20 percent. The computer server is down for the 15th time in three days. And your pet canary is running up a $200-a-week tab at the veterinarian for its asthma attacks.

Big deal. After all, you could be running an operation in a riot-torn country that's been ruled by dictator who never saw a media company he didn't want to control. And even though he's finally gone, the currency's plummeted to subterranean levels, and just about every major supplier contract is written in U.S. dollars. I'm talking Indonesia here.

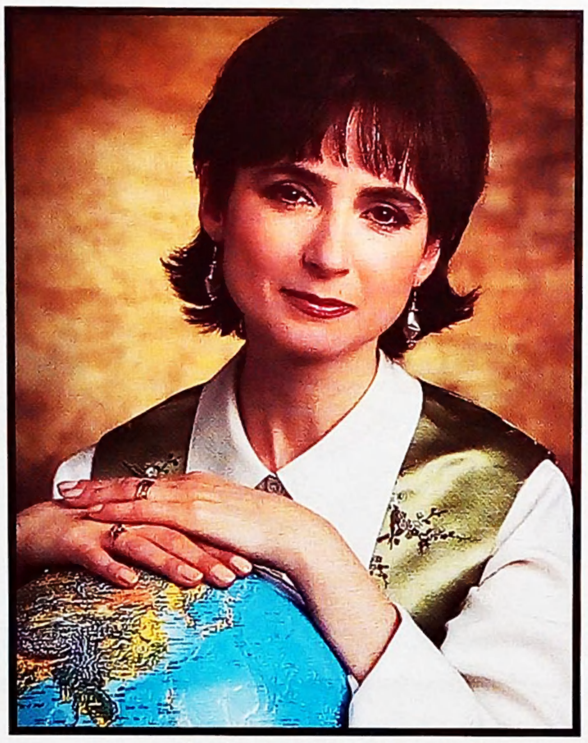
Maybe I got the idea from editing our cover story on churn in places like Brazil, the Middle East and Britain. Maybe it had to do with the fabulous financial department that we're debuting this month called "Taking Stock," put together by managing editor Mike Galetto. Whatever the inspiration, I just had to give David Dennis a jingle.

Dennis is CEO of the Indovision direct-to-home platform in Indonesia. Indovision wins the worldwide prize in my book for both the best — and worst — timing over the past 12 months. Its parent company, Datakom, managed to complete a $US260 million bond offering three days before the Asian market crashed. Those bonds are currently bid at 27 percent of their original issue price, according to Bob Berzins, a senior vice president at Lehman Bros.

Making matters more interesting, in May, Indovision was days away from switching over to a new satellite, with more channels and smaller dishes in sight, when all the rioting hell broke loose. Needless to say, that plan was postponed.

I figured my sugar-coated requests for an interview would go unfulfilled. But Dennis was more than happy to talk. He reports Indovision's subscriber base is still skinny, at 29,000. But it's only lost 1,000 subscribers over the past year. That relatively small drop-off comes despite two rate hikes — a 40 percent increase six months ago, and another 50 percent jump in July.

I asked Dennis for his survival recipe. As you might expect, there are a few ingredients. First of all, Indovision has always targeted the wealthy A- and B-demographic groups, which traditionally don't get rid of pay TV subscriptions during harder times. Consumers still come out ahead of what they were paying a year ago, if you calculate the rise against the rupiah/U.S. dollar exchange rate.



Think life's tough? You could be working in a riot-torn country with a currency that's plummeted to subterranean levels.

Of equal importance, Dennis' team started renegotiating supplier contracts way back in February, three months before the rioting. And almost every contract has been rewritten.

Dennis is now projecting a sub base of 100,000 in 24 months. And the move to the Cakrawarta bird (formerly known as Indostar) will happen "fairly quickly."

That's not to imply that everything's rosy these days. "We're trying to handle it on a day-by-day basis. It's handle-able in bite-sized lumps," says Dennis.

"We're just different here," he adds. Hmmm. Shades of that churn story, once again.

Janet Stilson

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BLIPS ON THE SCREEN

Gambling On Channels

NEW DELHI

BY RASHME SEHGAL

The services of H.F.R. Keating's hard-nosed detective Inspector Ghote could come in handy in cracking an apparent mystery within the Indian pay television business. Consider the facts: The country is facing its worst recession in the last five decades, business expansion strategies are on hold for most companies and program networks are starting to fall by the wayside. Yet new satellite-delivered channels are multiplying at a record pace. Ten new channels are expected to debut during the next 10 months alone.

The economic picture worsens, the deeper you dig. The increasing rate of inflation is eating into advertising revenue gains, and the state-controlled Prasar Bharati Corp. (formerly known as Doordarshan) is still gobbling up the majority of TV ad spending.


Show 'em the money. Star Plus' *Mal Hai to Taal Hai.*

The last three years have already witnessed a major shakeout. Jain TV, YES channel, Money TV and Dalal Street Journal closed up shop without a whimper. And although the Zee TV network group has reached profitability, some of the most popular satellite-delivered channels — Star TV, Discovery Channel, Television India and even the revamped Sony Entertainment Television — have yet to break even.

What's more, the protracted delay by the Indian government to pass new media laws leaves a big question mark for overseas channels in particular, as new regula-

Continued on Page 40

Beating the Odds In Rural Brazil

CURRAIS NOVOS

BY JOSÉ EDUARDO MENDONÇA

The tale of how Siderley Menezes fought to set up a cable business in Currais Novos, a remote town of 50,000 in northeastern Brazil, is as dramatic and compelling as most Latin American novels. It involved hardship, struggle and an unerring will to succeed.

But before telling that story, fast forward to Menezes' achievements. Indeed, he has been most successful. To date, his cable company, Sidy's, boasts 3,000 subscribers among Currais Novos' 8,000 TV households. That gives him a cable penetration rate of some 38 percent — far higher than Brazil's national average, which stands between 7 percent and 8 percent.

Then again, entertainment is in strong demand, and limited supply, in Currais Novos. The town boasts no cinemas or theaters, only video rental shops. The recession-hit town has seen two tungsten mines and one gold mine shut over the last three decades.

Menezes has done exceptionally well selling three programming packages on his cable service, ranging from 11-channel to 35-channel bouquets that run from $12 to $33 per month. "It is amazing. We have mud huts with cable. It's pretty miserable around here, but we are providing an essential service," says the 54-year-old Menezes.

But getting the project off the ground wasn't easy.

Menezes' status as a local entertainment provider dates back to 1970, the year when he installed a broadcast TV antenna atop a nearby hill so that Currais Novos' residents could watch Brazil win

Continued on Page 40

MENEZES

Germany's Jumble

FRANKFURT

BY DIETER BROCKMEYER

Those believed dead often turn out to have the best health. That definitely seems true for Germany's Torsten Kreindl, who is in a position to be one of the most powerful executives in world's cable business. His ambitious digital-cable bouquet was long delayed, but finally launched last month. However, the bouquet is smaller than originally planned.

Kreindl had shining visions of the future expansion of Germany's cable systems, which are dominated by his employer, the mighty Deutsche Telekom A.G. But, lately, Kreindl has fallen silent, an apparent victim to Telekom's overall shift in priorities as it prepares to completely reorganize the way its cable systems are owned and operated.

Kreindl serves as Telekom's de-


KREINDL

partment head for broadband distribution networks and services. But rumors have spread to cable TV channel providers and even within his company that Kreindl "has been kicked out of his responsibilities," as one German source had put it only some weeks ago. Kreindl isn't talking, and Telekom officials did not return calls. But there is evidence to suggest that the powerful leader is somewhat in limbo while Telekom wrestles with changes that have, in part, been orchestrated to placate European regulators.

In the last six months, Telekom shifted from trying to erase the 1.2 billion deutsche marks ($US667 million) in annual losses from its

Continued on Page 40

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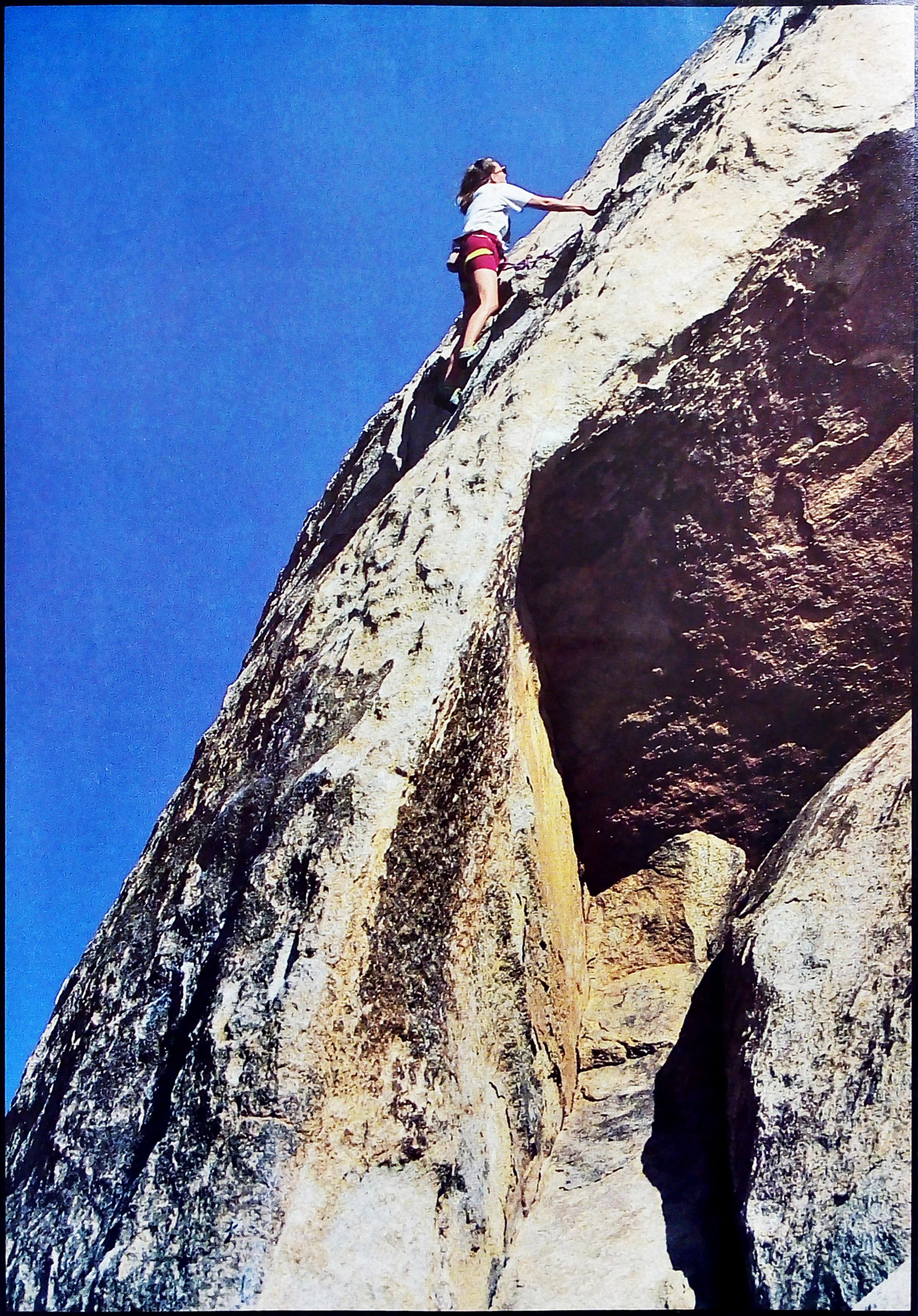


Ain't No Mountain High Enough

Women are learning the ropes that will put them on top of the pay television heap. But the path is still rocky.

By Jo Dallas

As Joyce Taylor hobnobbed her way through a recent dinner in London sponsored by Discovery Communications Inc., she was accosted by a gentleman with the air of an old-fashioned English aristocrat. "I have just been speaking to the chap who runs Discovery," he said in his upper-crust accent. Taylor was intrigued. She followed his gaze and replied matter-of-factly, "Oh yes, he's one of my staff."

"Oh no, no, no. I've just been speaking to him. He's over there," replied the man, who didn't quite comprehend that *she's* the boss. Taylor is managing director of Discovery Europe. Hers is one of the most prestigious positions held by a woman in the European pay TV business.

Like those who think a woman's place is in the home, his mind set is sorely out of step with reality — particularly when it comes to the programming business, where women are thriving.

Statistics on how many women hold top management positions in pay TV and related businesses are scarce, and salary disparity studies are even more rare. But discussions with many of those who watch the gender gap say that the grass is definitely greener for women in the pay TV business today than it was a few years ago. And it's certainly better than in terrestrial television.

Still, there's a long way to go, baby. Women in the United States have winced in recent years as some of the media industry's top female executives have either left key positions on their own, or taken some hints to do so. And females on the systems side of the business — no matter where one looks — are almost as rare as flamingos in the Arctic Circle. When looking at advances on a regional basis, the Pacific Rim appears to be much more a man's world than the Americas and Europe when it comes to multichannel television.

But on the plus side, several women have risen to the top in the programming sector of the business recently. Among them are Cindy Wilson, who last March was appointed vice president and general manager of CMT International; Candice Carlise, COO of the global partnership between Discovery and the British Broadcasting Corp.; and MTV: Music Television veteran Janet Scardino, who is now vice president and managing director of Disney Channel, Italy.

In the United States, more women than ever are making it into the high ranks at cable program networks, say industry observers. And the momentum is spilling over to the broadcast side, as well.

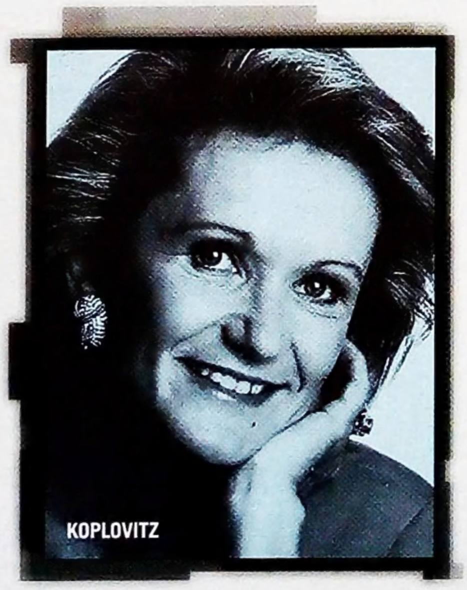
This summer saw a flurry of activity, with ABC Inc. promoting four women to oak-paneled office positions. Top honors went to Patricia Fili-Krushel, who was promoted to president of the ABC broadcast network. She is the first woman to hold such a position. Her promotion was followed by that of Anne Sweeney, who was upped to president of Disney/ABC Cable Networks, replacing another well-known female exec, Geraldine Laybourne, who left the post weeks earlier. Amid those two appointments, ABC named a female chief financial officer and a female head of daytime programming at its broadcast network.

Media is a sector women have traditionally entered in many parts of the world. In the United Kingdom, one of Europe's most developed media markets, females represented between 39 percent and 58 percent of the total work force among 18 broadcast licensees, according to 1997 statistics from the London-based Independent Television Commission (ITC).

Women also make up anywhere from 12.5 percent to 52.6 percent of senior management. The ITC doesn't break out percentages for women in the pay television business. In fact, few — if any — regulatory bodies do, apart from the Federal Communications Commission (FCC) in the U.S. But the FCC's yearly reports suggest what many say is true around the world: that subscription television definitely offers better — and more — opportunities.

The FCC's 1993 snapshot of cable systems' hiring practices found 47.5 percent of staffers in the "professional" category were women. That dropped slightly, to 46.9 percent, in 1997.

Still, the starting points are significantly higher than in broadcast, where, in the same cate-


KOPLOVITZ


TAYLOR


SCHNEIDERJOHN

gory, women made up 33.1 percent in 1993 and 35.9 percent in 1997. Women last year represented 42 percent of pay TV industry employees, while in broadcast they represented 41 percent of the work force.

In speaking of the pay TV programming business, Discovery's Taylor comments: "An industry like ours offers a lot of opportunities to women [because] it is not looking for people with a stuffy, institutional" way of thinking. Seventy percent of people working under Taylor are women, and their average age is 28.

Certainly, women from other professions, like law, appreciate the industry's hiring practices. Among them is Sally Davis, senior vice president, European sales, business and legal affairs, Walt Disney Television-International. She says the media sector in general is very open to female attorneys, who at times encounter a certain stodginess in their chosen field. Becoming a partner in a law firm in the U.K., for example, can be tough because of the belief that "it is easier for men to rub shoulders with captains of industry," she says.

> "If each COO took responsibility to correct disparities, the problem would go away."
>
> — *Kay Koplovitz, founder and former CEO, USA Networks*

Consider other job categories, however, and women are much thinner on the ground. While the FCC statistics suggest that women find more openings in systems companies, they rarely reach the very pinnacle of corporate success. While there are some female divisional heads of major multiple system operators (MSOs), Jan Peters, president and CEO of MediaOne, is the only one who's currently at the very top.

In the U.K., "the operations side of the business is much more open to strong women" than the U.S., in the opinion of one expatriate American, Pippa Gerard, managing director of Women in Cable, U.K. She points to one recent example: the recent hiring of Leigh Wood as chief operating officer of MSO NTL CableTel.

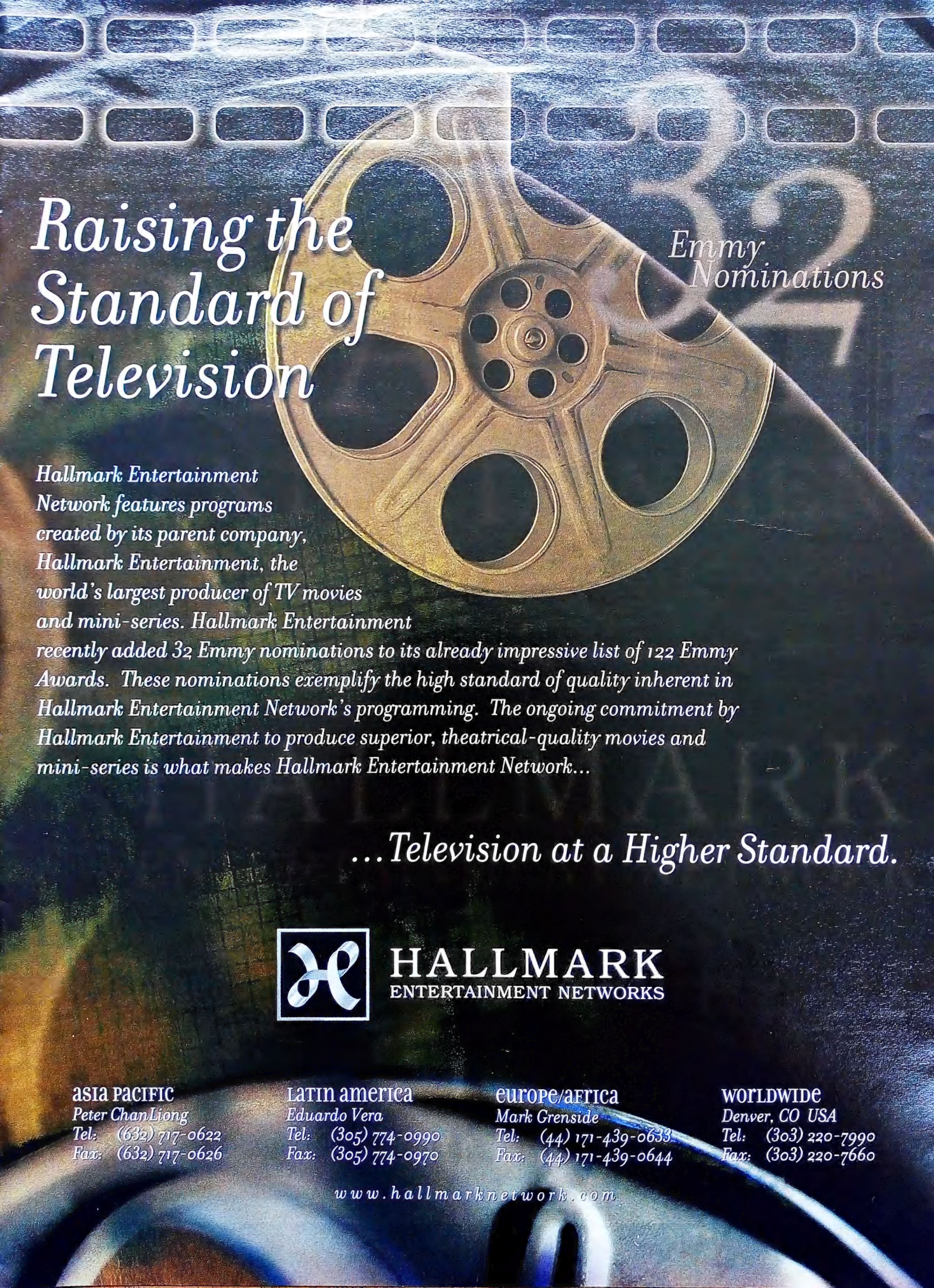
Gerard may be right. But women aren't exactly having a field day in Britain. Richard Woollam, former director general of the U.K.-based Cable Communications Association (CCA) and managing director of the cable/telcoms consultant EuroCable Communications Ltd., relates: "When I came into [the CCA] in 1988-89, the industry was totally male-dominated. But then women started to take on management roles in programming, marketing and advertising between 1990 and 1992." Nevertheless, in the U.K., "you would be hard-pressed to find half a dozen women in senior management [in MSOs and telecommunications companies]. We are talking three or four," he adds.

Woollam says Continental European pay TV "is at the point the U.K. was between 1992 and 1993 ... What I see in Western, Southern and Eastern Europe is a U.S. presence, which is predominately male."

One factor helping women in certain markets is the scarcity of talent. Headhunters in Latin America and Asia report that the lack of talent has taken the focus away from gender and keenly placed it on objective criteria, like productivity and performance. "The industry is so open to people with talent. Value is placed on performance, so I do not see a heartbreak story here for women. I see it as rather, 'Hey girls, you're really in a great place,'" says Tevis Trower, executive recruiter with Korn/Ferry International.

Her Hong Kong-based colleague, Lynn Ogden, agrees. The

Continued on Page 14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Mountain

Continued from Page 10

Asia-Pacific market is "so light on talent. The pool is so small, it is experience-driven. [At the very top] I see things equaling out," says Ogden, head of Asia-Pacific consumer and entertainment practices for Korn/Ferry International.

For this reason, there is less gender-based salary disparity at the very top, says Trower. She notes that companies are too anxious to hold on to their top female talent to shortchange them. In any case, "there would be no reason for a woman to put up with it, because there would be five other companies trying to pick her up, and slugging it out to pick her up," she says.

Neither Trower nor Ogden recruit non-executive women. But Ogden says she would not be surprised if women were getting paid at least 10 percent to 15 percent less than their male counterparts at the lower end of the media ranks.

However, other recruiters have fallen across some very blatant examples of discrimination. One Latin America-based telecommunications company paid a woman about 30 percent less than a man for doing exactly the same job — that of regional marketing manager, consumer markets division — says Rob Sweetser, a recruiter for the executive search firm Warren, Morris & Madison. He says it is not unusual for companies indigenous to the region to indicate off-the-record that "they want a man for the job." That's a rare request from multinationals, he adds.

There's also a way to go for rank-and-file female execs in the U.S. Just look at the recent study released by the U.S.-based Women in Cable and Telecommunications (WICT), which examines wage disparity. According to the survey, conducted in 1997, women in the U.S. pay TV programming business were paid 18 percent less than men, while they received 15 percent less on the operations side of the business.

Still, these figures compare favorably with the national average. In 1996, full-time U.S. female workers brought home $73.40 for every $100 their male counterparts brought home, according to the Washington D.C.-based National Committee on Pay Equity.

It is a similar story throughout the world. On average, women get paid between 60 percent and 70 percent of what men earn, according to the International Labor Organization.

> "I do not see a heartbreak story here for women. I see it as 'Hey girls, you're really in a great place.'"
>
> — ***Tevis Trower, executive recruiter, Korn/Ferry International***

Returning to the WICT study, the traditional gender imbalance is turned on its head at the highest corporate levels, with senior women in programming getting paid more than men. In 1997 their annual salaries were 118.7 percent of men's salaries, or $166,952 compared with $140,705.

The important proviso is that women at this level tend to work for larger organizations than their male counterparts.

Why does the salary disparity in most categories exist? "Because management can get away with it," says Koplovitz. "If each COO took responsibility to correct disparities, the problem would go away." She notes that issues such as equal pay and affirmative action have simply disappeared from public discourse in the U.S. "There is no [societal] pressure to do anything on these issues; 10 to 15 years ago there was."

Until recently, those with an eye on U.S. hiring practices were dismayed to see some of the industry's most high-profile women depart from high-profile jobs, including Koplovitz, Laybourne and Lucy Salhany, former charman and CEO of broadcaster United Paramount Networks.

And on the systems side of the business, the industry lost a potential top female executive addition. Shortly after AT&T Corp. announced its plans to acquire Tele-Communications Inc., Gail McGovern, head of AT&T's consumer business division left the company. AT&T is creating a new consumer services division to handle the cable operations, and McGovern was a likely candidate to take a key managerial role.

Despite those losses, Koplovitz says a series of recent appointments made last month, which promoted several women to top posts, are "encouraging." She believes they are "changing the picture of women in significant roles." And possibly more importantly, "the people who are making these decisions feel comfortable and confident" passing the reins to women, she adds.

For more good prospects, look outside the U.S., suggests Dawn McCall, senior vice president and general manager, Discovery Communications Inc. Latin America/Iberia. She thinks overseas markets offer excellent space for advancement. "If a woman wants to step up to the plate, the opportunity is probably more readily available" beyond U.S. shores, she says.

Certainly in Latin America, her neck of the woods, there have been enough senior women entering the industry to merit the creation of a women's trade organization: Asociación de Mujeres en Telecomunicaciones. AMET aims to "act as a network for women in the industry," says Karen Davis, a pay TV consultant who founded the group. Men, however, are not excluded from becoming members.

All over the world, women tend to advance higher within program networks than any other sector. But even there, women are still notably scarce in the Pacific Rim. "Asia is still very male-dominated. Although, as the market matures, you will find more women entering [senior management positions]," says Sean Gil, an executive search consultant in China with Strategic Executive Search, formerly Ward Howell International.

Korn/Ferry's Ogden describes Japan and Korea as "very patriarchal, male-dominated cultures." It is difficult for women to reach senior positions there — in any industry, she says.

Those comments are backed up by a study undertaken by the United Nations Educational, Scientific and Cultural Organization (UNESCO), called *An Unfinished Story: Gender Patterns in Media Employment*. It found, for example, that as recently as 1995 there were no senior female managers in the broadcast sector in Malaysia. In Japan, the study found, just 12 out of 3,146 senior managers — or 0.4 percent — were women. If Asia lands at the bottom in this category on a global scale, Latin America comes out on top. There, 21.6 percent of employees in the top three levels of media management were women, according to the report, while in all other regions, including Europe, that figure is less than 20 percent.

Yet women in Asia do well in other industries, such as banking and finance, which are considered overwhelmingly male-dominated in other parts of the world. So why not pay TV?

It is partly lifestyle, says Gil. Late-night drinking with the boys, often ending in a strip joint, can be par for the course. That's not the most enticing environment for women, and sometimes not for men either.

In Australia, Debra Richards, CEO of the Australian Subscription Television and Radio Association, says she has not seen many advances for women in media recently. Indeed, there has been some backpedaling. In the past, three out of seven senior members of the Australia Broadcasting Tribunal — a government body regulating the media sector and the forerunner of today's Australian Broadcasting Authority (ABA) — were women, she says. Today, the makeup of the ABA has shifted more heavily in favor of men, who number five. There is one woman, though she serves only part-time.

Often, joining an international company can be the best passport for ambitious women, believes Diane Schneiderjohn, senior vice president of network distribution and affiliate relations, Turner Broadcasting System Asia-Pacific Inc. That may be particularly true of her own organization: Out of the seven Cable News Network bureaus across Asia, five are headed by women.

While there may be a notable number of top American female executives working in Latin America, there are far fewer execs who are natives of the region. Indeed, they are so scarce they shine like

Continued on Page 16


SERMERSHEIM


McCALL


DAVIS


RICHARDS

Mountain

Continued from Page 14

beacons. One bright spark is Emilce Cebrian, executive director of Latin American Pay TV Service (LAPTV). Based in her native Argentina, Cebrian is responsible for the marketing and distribution of LAPTV channels Cinecanal and Movie City throughout Latin America's Southern Cone.

Another rare native female executive in the Latino crowd is Leila Loria, the general director of the Brazilian arm of the direct-to-home satellite TV platform, DirecTv.

Asked to name other senior women in Brazilian pay TV, Loria comes up with only one name: Marluce da Silva, CEO of the broadcast monolith Rede Globo. Her responsibilities include oversight of its pay TV programming unit, Globosat.

Understanding why there are so few such Latinas in pay TV requires some historical perspective. In the 1970s, when women in the U.S. were burning their bras and demanding equal rights, Argentina and Brazil were governed by military regimes. Only in the 1990s have women there begun to enter professions in significant numbers.

Another limiting factor for women in pay TV is simply its youth. That's true of Asia as well as Latin America. "An industry eight years old ... has not had enough time for the next generation [of female executives] to come up," says Ogden about the Asia-Pacific region. Yet even within this short time frame, there has been progress, says Sandy McGovern, president of National Geographic Channels Worldwide. In Latin America and Asia, "women are truly achieving positions higher up the ladder than they were six years ago, when I started to work overseas," she says. "We are seeing more department heads and senior executives."

Loria is already witnessing the trend within her own company. Since she joined DirecTv in Brazil over a year ago, the percentage of women in management positions has risen from 20 percent to 35 percent.


CEBRIAN

Many are confident of continued progress. Discovery's McCall predicts that in less than five years the industry will see many more women native to Latin America filling the kind of slot she now holds.

In Europe, Davis is optimistic that in the next decade there will be female CEOs, COOs and CFOs who were not there before.

But certain factors could still provide some roadblocks — like consolidation, a trend to be found in markets as distant as Britain, Australia and Argentina. AT&T's pending buyout of TCI is the kind of development that could result in "fewer jobs and more turmoil," comments Gail Sermersheim, vice president and general manager, affiliate relations, of Home Box Office's southeast region of the U.S. "And at times like these there can be less tendency to take a chance," such as by hiring women for jobs traditionally held by men, she says.

Then there's simply tradition to deal with — like that the aristocratic Discovery guest subscribed to. As one female executive put it: "It is not so much men deliberately keeping women out, but a question of, 'Gosh, I didn't even think of hiring a woman.'" ■


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THERE WAS AN ALmost audible sigh of relief in the boardrooms of telco and cable companies across the Asia-Pacific region in June when the proposed $US42 billion AT&T Corp. acquisition of cable giant Tele-Communications Inc. was announced.

That deal, in multichannel television's most mature market, helped validate the billions of dollars at stake halfway around the world, as Pacific Rim operators develop broadband businesses.

There was also the sense that the advanced networks under development today would lead the way in interactive broadband communications worldwide tomorrow.

As Chris Anderson, the CEO of Australia's cable and telco operator Optus Communications Ltd., puts it: "The AT&T takeover bid did wonders for the value of Optus — and put up cable company public enterprises around the globe. The bid was a multibillion-dollar vote of confidence in convergence by a telecommunications industry."

But suits like Anderson aren't spending too much time on self-congratulation, as they seek to make the financials work and answer questions about consumer demand.

There are some real brain teasers to be resolved, in the opinion of Don Stubel, Singapore-based director of engineering with Scientific-Atlanta Inc. "It is asking quite a lot of existing cable TV providers at the moment to introduce broadband services," Stubel comments, alluding to the economic crisis that has hamstrung many Asian markets over the last year. "There's a fundamental question: Can we make money? The United States and other countries have proven that you can. But at the moment in Asia there are a lot of people who are struggling."

Tied to the financial question are others concerning which features will push the broadband business forward. John Lewis, the Asian regional manager for new business development with Pace Micro Technology (Asia) Ltd., wonders whether features like home banking and shopping will have as much potential in the Pac Rim as they do in other regions. He notes that backup infrastructures for such services — like order-taking facilities and secure banking systems capable of going online — don't exist in most Asian countries. And in his opinion, "People will think getting their shopping done through the Internet is interesting, but it won't make them go out and get connected."

That could be true. But broadband prospects in the region have attracted some mighty big media fish, including Microsoft

UIH's Saturn Communications, in New Zealand, is eyeing an array of services.

Pac Rim Pipe Dreams

Broadband projects in the Asia-Pacific region are moving ahead cautiously—but resolutely—as their leaders mull over some pretty big puzzles

By Pip Bulbeck and Owen Hughes

Corp. chairman and CEO Bill Gates. According to executives at his company, Gates is targeting Australia and Singapore as the two markets outside the U.S. in which to build a broadband-services business and test online applications.

Gates' interest in those two markets is attributed to not only high take-up rates for new technologies and relatively high Internet penetration, but the quality of the two-way networks built by the systems.

No matter how you balance the caution and optimism, a few numbers give an indication of exactly where the region stands with broadband.

Just take a look at Australia. The two overbuild rivals there, Telstra Ltd. and Optus Communications, pass about 2.5 million homes in major metropolitan centers. Last year, they wrote off a massive combined $1.2 billion Australian ($US720 million) in their broadband network investments and both halted construction. For Telstra, the work stoppage left it 1.5 million homes short of its original homes-passed target.

Looking at the overall region, there are an estimated 100 million-plus multichannel television households. But only a small fraction of them subscribe to systems that provide cable television, local-loop telephony and high-speed data services. There are really only half a dozen broadband networks in the region that fall into that category.

In addition to the projects in Australia, two bona fide ventures can be found in Southeast Asia — one in Singapore, the other in Hong Kong. New Zealand is home to one more. And in the home of electronics, Japan, at least two cable operators are moving full steam ahead with broadband despite the yen's nose-dive. It's in that market that the Microsoft-backed WebTV Internet-over-TV service has garnered its first international beachhead.

Elsewhere in the region, drawing-board plans can be found at Malaysia's cable operator, Mega TV, and at the Taiwanese MSO, Eastern TV. What's more, Lucent Technologies is working with a provincial Chinese cable operator on a broadband project.

Some see Singapore as a potential broadband hotbed.

In Thailand, the recently married Universal TV and International Broadcasting Corp. (IBC) pay TV operations are keen to provide digital interactive services. But right now, they've got their hands full dealing with the ravages of the ongoing Asian economic crisis. Retaining existing subscribers is the chief goal of the newly merged entity, Universal Broadcasting Corp.

Few of the broadband ventures still in the early planning stages have a solid idea about when they will become reality.

Those that are up and running — or on the verge of launch — are taking a "softly, softly" approach, seeking to learn much more about consumer demand and customer service.

There's little wonder that Singapore Cable Vision (SCV) and Hong Kong's Cable TV are broadband test beds in Southeast Asia. The economics are particularly favorable in both of those city-states because the bulk of their inhabitants live cheek-by-jowl in some of the most densely packed housing in the world, making the cost of network construction much more economical.

Just as important, both markets have enthusiastically embraced new technology developments in general, including everything from smart cards to digital video discs.

Raymond Tse, the marketing manager for greater China at Antec Corp., notes that consumer demands for high-quality product

will certainly be key to the success of Cable TV's broadband services project in Hong Kong if it is to compete effectively against Hongkong Telecom Interactive Media Service's Interactive TV (iTV) video-on-demand service, which launched earlier this year.

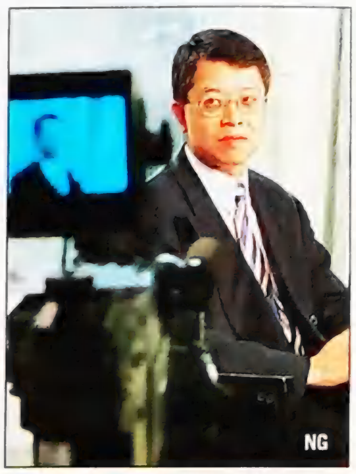
Cable TV is anxiously awaiting the results of a government review of both the TV and the telephony environment within the Special Administrative Region (SAR) of China. The system is currently only permitted to offer pay TV through its system, but clearly the company is confident that an easing of regulations is close at hand.

Bill Earl, an adviser to the chairman of Cable TV, Stephen Ng, indicates that the company and its parent, Wharf (Holdings), are lobbying strongly to have a ban on providing Internet services through cable modems lifted. Speaking in July, Earl reported that Cable TV planned to start a three-month modem trial in the first quarter of 1999. But a few weeks later, Cable TV's would-be partner in that project said the plan was on hold.

The modem trial apparently has close ties to a plan by another Wharf-owned entity, the SAR domestic telephony provider New Telegraph and Telephone (New T&T), to conduct a three-month commercial trial to bring pay TV and telephony to 30,000 Hong Kong homes. However, Leslie Harris, New T&T's president, says that the cable-telephony trial will not go ahead, partly because of the costs of upgrading Cable TV's fiber optic network to accommodate more data from TV and Internet transfer. Harris estimates the cost at between $US600 and $US800 per household.

The good news is that when Cable TV is ready to launch telephony and interactive services, it won't need to start from zero. In return for a three-year period of exclusivity from the Hong Kong government, Wharf committed to building a $US675 million hardwire cable network carrying telephony and interactive tools.

"It's a case of 'hardening' the system," Ng says. "When the moment comes and we are allowed to provide additional services to the TV side, we know we will be able



NG

to upgrade quickly and not start from scratch."

Cable TV's subscription base of 400,000 of Hong Kong's 1.6 million homes includes 160,000 that are receiving the service through a hardwire cable network, with the majority using microwave to pick up the channels.

While regulators are still holding Cable TV back, the government of Singapore is spurring SCV forward. A little less than 80 percent, or 670,000, of Singapore's 860,000 homes are passed by SCV's two-way hybrid fiber-coaxial (HFC) network. And the rollout of the system is expected to cover every household on the island by the turn of the century — part of Singapore's IT2000 project to make the country technologically savvy. SCV's system is just one leg of a larger project, referred to as "SingaporeOne," which aligns government economic mandarins with the computer, telecommunications and broadcasting agencies to form a single unified front along the information superhighway.

Philip Tan, SCV's senior vice president of operations, says the company is assessing the data from the first year of a pilot project that provided cable modems to 5,000 subscribers.

SCV faces some interesting challenges in meeting consumer demands. As Tan explains, the bulk of Singaporean families live

Continued on Page 22

Tom (Actually) Likes It

Folks in the industry know that Tom Jokerst, Senior Vice President of Engineering at Charter Communications, is something of a stickler for quality. Some would even say that he's a bit of a perfectionist.

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— *Thomas R. Jokerst*

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Pipe Dreams

Continued from Page 20

in government-built apartments. And with Asian households often consisting of three generations under the same roof, it means that the TV set is on throughout the day as entertainment for everyone from toddlers to grandparents.

"People [in the pilot project] are not really getting the Internet through the TV, because if you do, then you have to stop everyone else watching it. Singaporeans prefer to get online through their personal computers," says Chin Shi Heng, the Singapore-based marketing manager for Motorola Electronic Pte. Ltd., which supplied all the modems in the trial.

"Interactive TV may work, but to use it full-time through the TV set will take some time," adds Chin.

That said, SCV has a memorandum of understanding with Microsoft for WebTV deployment and development and is "considering various options separately," according to MediaOne International Asia Pacific managing director Martin Hannes, who oversees the company's interests in SCV, Australia's Optus Communications and Japan's Titus Communications. MediaOne International, formerly U S West International, is, in fact, one of the brains behind three of the region's strongest broadband systems. It's been pioneering broadband networks worldwide, building on the company's expertise in the U.S. and a strategy of combining voice, video and data over one network.

Titus Communications and another MSO, Jupiter Telecommunications Co. Ltd., have so far been the only cable companies in Japan that have received telecommunications licenses to compete with telephony giant Nippon Telegraph and Telephone (NTT). Titus started offering telephony over its prime HFC network in Kashiwa, Tokyo, in June 1997, and has been testing Internet services since October.

The system passes more than 700,000 households and has 50,000 subscribers. Throughout Japan, Titus has franchise licenses for areas covering 2 million homes, or 5 percent of Japan's market. Titus is a joint venture between Time Warner Inc., MediaOne, Toshiba Corp. and Itochu Corp.,


HANNES

and it's building broadband networks in several areas of Tokyo.

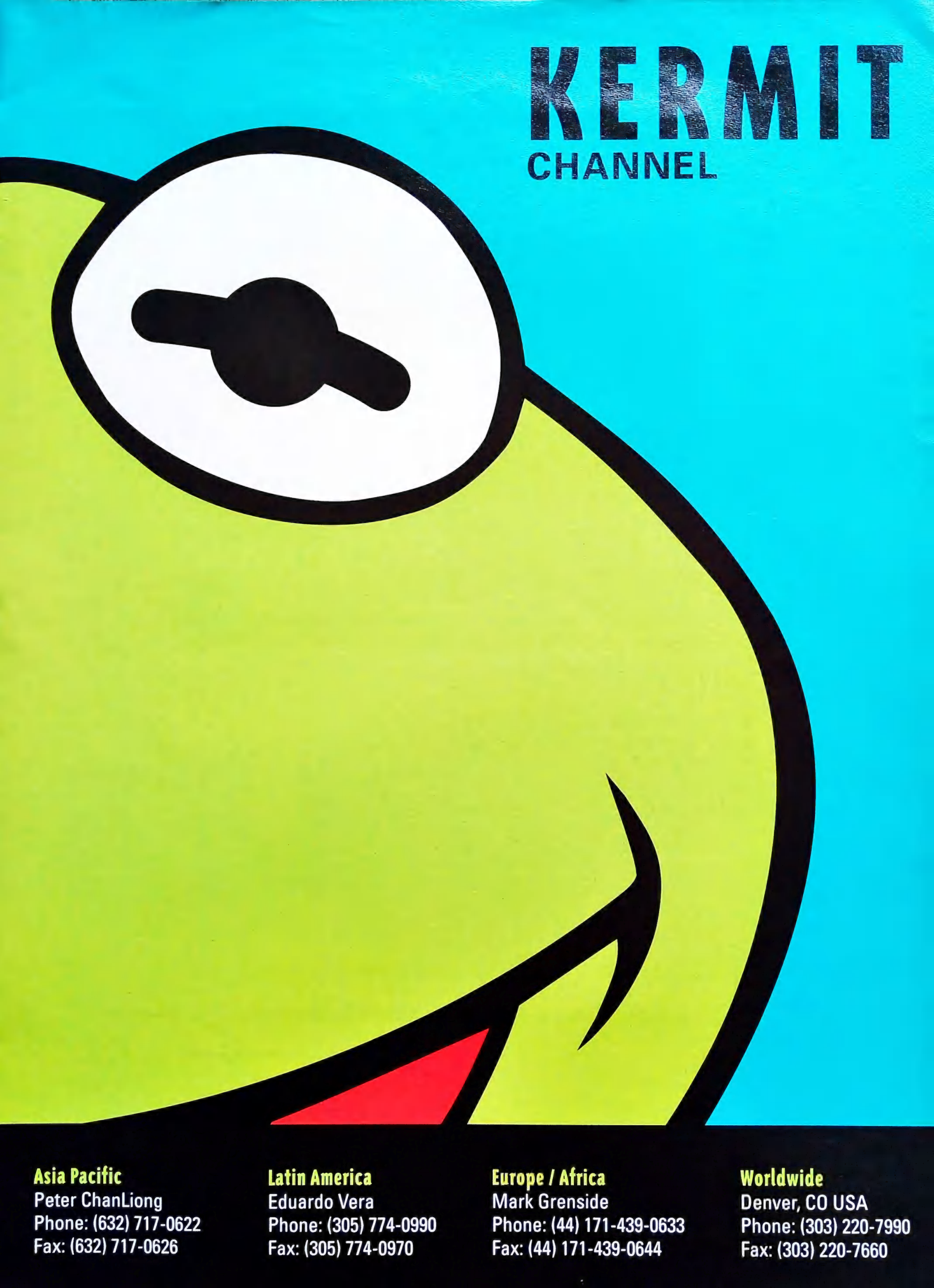
Currently outgunning Titus in cable TV subscriber numbers, however, is Jupiter, a joint venture between Sumitomo Corp. and Tele-Communications International Inc. It has systems in 11 Japanese prefectures, covering 2.7 million households, with 206,000 cable subscribers. It's currently offering local-loop services to just 20,000 subscribers in the Suginami system.

J-COM, as it's known, has been marketing local-loop telephony since July 1, 1997 — just one month after Titus announced it was doing so. It plans to roll out to another 785,000 homes by January 1999. But as in Hong Kong, it appears that the government has been the sticking point in broadband development, with sources saying the licensing of telephony over cable has been protracted and complex.

Recent reports, however, suggest that the Japanese Ministry of Posts and Telecommunications will consider reviewing the laws governing the broadcasting and telecommunications sectors with an eye toward enabling stronger growth by the cable and DTH companies.

While Titus isn't fully bi-directional and capable of delivering a full suite of interactive services,

Continued on Page 24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Pipe Dreams

Continued from Page 22

the company is in the process of becoming two-way ready for the new service streams.

Microsoft also has its sights set on Japan, which last December became the first market outside the U.S. to launch its WebTV. Microsoft allied itself in a joint venture with Fujitsu Ltd., which is providing network access. With Sony Corp., Fujitsu and Matsushita Ltd. manufacturing its set-top units, WebTV hopes to reach the 150,000 subscriber goalpost by year-end, according to WebTV Networks' vice president of strategy and development Zara Heima.

A few hours by plane away, China holds some glimmer of promise, but the level of technical development is still much too low. In June, Lucent Technologies announced its Lucent Digital Video subsidiary had sold digital television equipment to the Hubei Cable TV system in central China.

Lucent's Rau Chang, vice president of transmission sales for China, says the $US4 million deal will create the world's largest digital-video network using fiber optic technology through the provision of digital-video encoders and decoders to 36 cities in Hubei province. Video, voice and data delivery are all part of the plan. But the accord does not include any interactive functions.

Clearly, the potential there is limited. A Hong Kong-based programmer notes that with cable TV subscriber fees averaging $US1.50 and subscriber management services still in their infancy, it is premature to talk about a full-fledged broadband network in China for the time being.

If China represents the more pessimistic end of the broadband spectrum, Australia and New Zealand are the opposite, blue-sky end. However, operators in those countries certainly have their own challenges. Industry participants there believe that to deploy the next generation of interactive services, new alliances are needed between the content and the technology providers.

"Now it's down to: How do we bring these [services] to market? And the talk is about each other's livelihood — the business. It's very, very sensitive," explains one senior Microsoft executive involved in a proposed alliance between the company and Telstra, Australia's largest telco.

Despite bad economic news, Hong Kong's Cable TV, pictured here, will be able to upgrade quickly, says Ng.

Telstra CEO Frank Blount revealed that the two were in discussions about some type of broadband joint venture, including WebTV, after meeting with Gates in Seattle earlier this year. "He made a big pitch for me to meet with him," Blount says. But to what end, exactly? The Telstra chief will only say that Gates "wants to share the risk and really work hard in a focused area; really go full-bore on applications on the broadband network. My sense is that he is very serious about doing something big-time. He wants 20 to 30 percent market penetration, or he won't do it."

Microsoft execs confirm their boss has Australia in the company's crosshairs, but project-specific details are "very sensitive," they say.

Tied into any Microsoft-backed launch of WebTV in Australia is a company called ninemsn. That online joint venture between billionaire Kerry Packer's Nine terrestrial TV network and Microsoft has developed a major Web site based on Nine's TV programs and Packer's stable of magazines.

Telstra's HFC cable network may not be as advanced as competitor Optus Communications' two-way system that carries video and voice through one pipe. But Telstra, which runs its telephony business separately from its Foxtel cable systems investment, has had some heavy data-delivery usage. It has an estimated 10,000-plus cable modem customers within its 300,000 cable-TV subscriber base. Foxtel, a joint venture with News Corp., passes about 2.5 million homes in Australia and has overbuilt Optus' system by around 80 percent.

Optus, in turn, has run its state-of-the-art HFC system past 2.1

million homes in three Australian cities. And its newly appointed director of multimedia, Chris Weston, says interactive TV, pay-per-view and near-video-on-demand — which Optus could provide now with its network and content partners — is "a huge development on what we can offer customers."

Weston says that in the next 12 months, Optus will offer a "broadband online product." The investment community has been told a cable modem service to compete with Telstra's current offering will be launched early in 1999.

Weston seems confident that Optus has successfully ironed out its technical problems, which have in the past two years prevented widespread use of telephony on the same network that carries cable TV and data. And he says he believes the company is now capable of large-scale marketing of local telephony services.

Of Optus' 180,000 cable TV subscribers, about 60,000 are currently Optus local-phone customers.

Although the company has yet to launch a data-delivery service, Optus is already developing an understanding of the business with the purchase of Internet-service provider Microplex.

Weston also says he'll be looking closely at sister company Hong Kong Telecom's video-on-demand services. Both companies are majority-owned by U.K.-based Cable and Wireless plc. Weston predicts that the newly created Optus Multimedia division will be the fastest-growing part of the Optus business within five years.

Across the Tasman Sea, Telecom New Zealand's (TNZ) foray into HFC provides a salutory lesson for broadband aspirants. Building the network was a defensive strategy against newcomers like Saturn Communications Ltd., the Wellington-based cable company owned by United International Holdings Inc. and Canada's Sasktel International. But TNZ concluded after 18 months of operation that a business couldn't be made on an HFC network from cable TV alone. The company certainly didn't need to use HFC for voice carriage, and it was building a strong Internet business on its separate copper network for telephony service.

As a result, the cable TV unit, First Media, was closed down on July 31. The closure of First Media and costs associated with it ran TNZ $37.3 million New Zealand ($US19.5 million), the company reported in its last financial statement.

TNZ is now concentrating its energies on providing what it terms "fast-data services," or high-speed Internet access through the copper network, and has about 120,000 subscribers for that service. In addition, the company conducted an asynchronous digital subscriber line (ADSL) trial to several hundred homes for data and voice. That trial ended in August, and the telco has yet to determine if it will roll out any ADSL-based services.

On the other side of Wellington, UIH's start-up system Saturn is providing some headaches for TNZ. It has built an HFC network that is provisioned for cable TV, telephony and high-speed data.

Saturn's network has passed 135,000 homes, with 15,000 of them now fully serviceable. UIH Asia Pacific president and CEO Mike Fries says the early sales are "encouraging." The bundled cable TV and telephony product is selling strongly, while telephone sales are getting 15 percent to 20 percent penetration on "first pass." The ability to offer telephony is doubling cable TV subscriptions as well, according to Fries.

Fries predicts that within five years, 70 percent of Saturn's revenue will come from telephone traffic. The company has just started offering a high-speed, two-way cable modem service.

To bankroll all of these services and complete construction, the company is seeking $US125 million in bank financing. Given that goal, the timing of the AT&T plan to purchase TCI was welcome news.

"After what's happened in the U.S.A., [Saturn] is a financeable business," he says. ■

Pulling Poland Forward

By Chris Forrester

EUROPE'S TELEVISION PLATFORM WARS — which mostly involve French pay TV outfit Canal Plus — have predictably spread to Poland. September will see two competing digital platforms aggressively slugging it out for viewer popularity, and the choices are increasingly being sold as a battle between locally produced material and Western imports.

Even though Poland is undoubtedly a much poorer country than France, Italy or Spain, it has all the right ingredients for successful multichannel TV, which is why so many players have entered the country. Poland boasts strong growth forecasts in pay TV subscribers and TV advertising revenue.

The words just about sum up the highly vitriolic war of words between U.S.-backed At Entertainment and Canal Plus, the two would-be masters of Poland's digital cable-and-satellite future. For a time earlier this year, they were set to be married; now they're competitors again.

The spat has not slowed down the enthusiasm most international programmers have for Poland, their most promising market in Eastern Europe. A roll call of those active in the market comprises most of the heavyweight players, including HBO, Turner Broadcasting System Inc.'s Cartoon Network and TNT, Discovery Communications Inc., Fox Kids Europe, Hallmark, Viacom Inc.'s MTV and VH-1, and National Geographic Channel.

Two new satellite platforms storm the country this month as invaders hope to prosper from its fast-growing economy

Hallmark Entertainment Network is one of the latest international entrants attracted by Poland's emerging economy. George Stein, its CEO, summed up what he sees as a buoyant situation, saying: "It's a great market — good cable, good DTH [direct-to-home] and they love our TV."

But rarely has competition been accompanied by so many ever-changing alliances, and by such a war of words. Consider this statement from Slawomir Suss, general director of Home Box Office Poland (HBO Polska), which in July firmly aligned itself with At Entertainment Inc.'s Wizja TV (Vision TV) bouquet on cable and DTH: "At Entertainment's platform already exists. Canal Plus are just issuing press releases. I can quote from plenty of press releases, but there is no Polish platform [from them].

"Canal Plus is in no position to launch a digital platform. They have no programming," he adds. "In my opinion, they have no management; they have no technology; they have zip."

And it's not only the networks. For several years, American players also have been building considerable Polish cable system interests. Hartford, Conn.-based At Entertainment controls Polska Telewizja Kablowa (PTK), an MSO with systems in the largest cities, Warsaw, Gdansk and Krakow. PTK has some 876,000 connected homes. Tele-Communications Inc., through Tele-Communications International Inc. and Liberty Media Group, owns 43 percent of Bresnan International Partners' BIP Poland, another major operator.

Consequently, cable is a vital part of Poland's TV distribution mix, thanks to the country's huge number of apartment blocks with common satellite master antenna TV (SMATV) or cable wiring. Some 2.6 million homes are connected, and considerable additional investment is taking place, with telephony as well as cable services targeted.

The financial community's support for investments in Poland

Warsaw's Old Town.
International pay TV players aren't horsing around in Poland.

POLISH TV AT A GLANCE

Population	38.5 million
TV households	11.8 million
Cable homes passed	8 million
Cable homes connected	2.6 million
DTH homes	1.375 million
Daily TV viewing	4.82 hours per person

Source: AGB Polska

has been strong, although some funding efforts have faltered. At Entertainment had no problems raising a total of $330 million in extra funding through a Nasdaq initial public stock offering as well as a bond offering last year. But Bresnan announced this June it had dropped plans — at least for the time being — to raise an additional $140 million through the issue of high-yield, or junk, bonds to further develop its Polish interests.

Despite this one setback, if programmers and cable system investors are listening to their bankers, analysts and economic specialists, Poland seems on the verge of a huge economic expansion. A July "poll of polls," drawn from the likes of Goldman Sachs, Merrill Lynch, Salomon Smith Barney and others, rated Poland as having Europe's fastest-growing gross domestic product, which is expected to grow 5.8 percent in real terms this year and 5.5 percent in 1999. The strength follows 7 percent growth in 1995 and puts Poland on a par with Argentina and ahead of every other fast-growing economy in the world, such as those of Chile, Turkey, India and Taiwan, though it trails China.

The U.S. Department of Commerce shares that enthusiasm, predicting that U.S. exports to Poland should grow to $7 billion by 2000 from $912 million in 1993.

Savvy programmers long ago spotted the country's fast-expanding cable infrastructure, which boasts 27 percent penetration, and enthusiasm for watching TV. Poles watch about 4.8 hours per day per person. That's the upside. The downside is that Poland's 38 million people have an average income per capita of just $2,468.

But that may be about to change for the better. Although Poland is not yet a member of the European Union, the country is committed to updating its legislation along EU lines, with Brussels providing Poland with models on which to base its regulatory reforms. The agreement should improve the business climate for foreign investors. Eventual membership, slated for next year, will further boost Poland's growth and the personal income of its people.

In media terms, the transition from state-support to full commercialization has been far from easy. Last November, Poland's National Council for Radio & Television (KRRiTV) published new content rules, and expected terrestrial TV networks to adopt its 30 percent minimum local quota requirements by Jan. 1 of this year. Such legislation might have been acceptable once upon a time, but not in the 1990s, and near-mayhem followed. Polsat, a commercial network, demanded an immediate reconsideration of the legislation, asking how it could possibly implement the ruling in less than six weeks when it was scheduling and buying programs months and years in advance.

Polsat is but one of the new breed of commercial players tackling the Polish market. Broadcasting since 1992, Polsat quickly established itself as the top-rated commercial channel — it had a 24 percent share of viewers in 1996 — and on July 1 signed a letter of intent to join Canal Plus Polska in its planned digital-DTH satellite platform.

Polsat is not alone. There are another dozen public and commercial stations fighting for a slice of the advertising cake, including three new channels licensed within the last year. Canal Plus, besides its planned digital bouquet, also operates a successful terrestrial pay network that launched in March on cable and satellite. TVN, a new station of which 67 percent is owned by ITI NeoVision TV and 33 percent by Central European Media Enterprises (CME), went on-air last October in the northern and western parts of the country, and in the central cities of Warsaw and Lodz. TVN gained an immediate 5 percent share. At the same time, Nasza Telewizja started broadcasting in Warsaw, Lodz and Chelm, while the Catholic Telewizja Niepokalanow, on-air since 1996, also plans to expand.

In addition to these many commercial TV players in cable, satellite and broadcasting in Poland, some seven applicants for TV licenses were unsuccessful in the last bidding round, so there remains a pent-up demand for transmission capacity. Besides the normal competition for viewers, the public stations TVP-1 and TVP-2 seek to make changes to old-fashioned advertising restrictions, which forbid them airing commercials on bank holidays, or interrupting a show once it has started. Commercial networks are exempt from these restrictions.

These general commercial TV developments are part of the normal evolution in any market, but the shift towards multichannel TV has been ultra-rapid, and a scorecard has been needed to keep track of the many developments. Earlier this year, At Entertainment and Canal Plus said they would set aside their differences and merge to offer a single satellite platform. Six weeks later, the deal fell apart, and a torrent of invective followed. Now a glut of programming is predicted because of the ensuing competition.

Wlodzimierz Lefik, president of Poland's Union of Cable TV Associations, forecasts stormy times ahead. "Each new programming offer, which adds to the attractiveness of the cable platform, is bound to benefit our members," he says. "But remember most of my members already offer 40 to 60 analog channels. This is already a wonderful choice. It is hard to imagine how additional digital channels will add much to this already rich offering."

Lefik says his members are keen to convert to digital, first at the headend and then downstream, but he warns that new programmers should first achieve analog distribution for immediate success. Lefik's operators, he adds, are keen on new premium channels to push subscriber rates over a typical $2 a month, which cannot provide any sort of return on investment for digital. The two premium channels are already helping. HBO's charges about $4.70 a month, while Canal Plus Polska's stand-alone movie and sports channel costs about $14 a month.

Lefik is right about the investment challenges ahead. But At Entertainment holds a few trump cards, as it controls PTK, whose presence in Poland's largest cities, subscriber base of 876,000 homes and $330 million war chest for investment combine to give it a distinct edge in distribution.

On the other hand, Canal Plus also has its friendly distribution chain, and is active in the market with its Canal Plus Polska film channel, available on analog cable and satellite to about 240,000 homes.

Morgan Stanley's senior analyst, Rebecca Winnington-Ingram, forecasts continued growth for Canal Plus Polska, even with the rival At Entertainment bundle to contend with. She sees Canal Plus Polska with around 387,000 subscribers by the end of this year; 512,600 by the end of 1999; and 612,610 by the end of 2000. Lehman Bros. is even more bullish about Canal Plus and At Entertainment, suggesting "a pay TV penetration target for 2007 of 15 percent of TV households, or 1.9 million subs, equally split between Canal Plus and At Entertainment." In other words, despite the concerns of local players, analysts believe there could be a healthy market for both platforms.

This is not the way public broadcaster TeleWizja Polska (TVP) board director Walter Chelstowski sees the situation. He describes the separate bouquets as "a nightmare" for viewers. "We have not yet signed a letter of intent [as to which platform to join], and this was discussed [mid-July] by our board of directors," he says. "In the end, one combined platform would be the best for Polish viewers. If there are to be 30 or so Polish-language channels, if they are split between platforms, then some of them will go bankrupt."

Chelstowski stressed that TVP was not likely to be making any speedy decisions. "There are only four players in the market: At Entertainment, Canal Plus Polska, commercial network Polsat and us," he notes. "My personal opinion is that we should find a solution which technically places Polsat and us on the same technical platform, because this duplicates the terrestrial situation, where we compete not on distribution but on program merits."

If this is the case, then the battle between At Entertainment and Canal Plus is even more complex, because since July, Polsat has been part of the Canal Plus bouquet, suggesting that TVP should now follow.

However, HBO is also a catalyst, and PTK's CEO Bob Fowler (who also heads up At Entertainment) now has HBO firmly on board. "We have an operational

"At Entertainment's platform already exists. Canal Plus are just issuing press releases."

— Slawomir Suss, general director, HBO Polska

POLAND'S TV ADVERTISING GROWTH

1991	$21M
1992	$50M
1993	$148M
1994	$250M
1995	$340M
1996	$390M

Source: Central Europe Media Studies/*Financial Times*

POLISH TV SHARES
(all-day viewing share)

TVP-1	32.2 percent
Polsat	24.1 percent
TVP-2	8.3 percent
TVN	5.8 percent
RTL7	3 percent
TV Polonia	1.6 percent
NaszaTV	1.4 percent
Others	13.6 percent

Source: AGB Polska

platform where we are broadcasting the entire channel package to our own cable systems," he says. "We have a superior package in terms of thematic channels and our overall content and sports rights are better. And [we have] HBO, [our] jewel in the Wizja TV crown."

It was widely rumored that had the At Entertainment/Canal Plus merger gone ahead, HBO would have quit the market. The split now allows it to demand a greater share of the At Entertainment platform, and it's likely HBO will in time augment its single-channel status by multiplexing itself and tie up further supply agreements. Suss, HBO Polska's chief, says the recent deal struck with At Entertainment "isn't just [concerning] the single HBO channel, but additional channels and other cooperation with At Entertainment, and the relationship they will have with the studios."

Suss is also highly dismissive of the impact national broadcasters will have as part of the Canal Plus bundle. "If the same analog channels are simply transmitting in digital, where's the value?" he asks. "What will the core channels be on this platform? Canal Jimmy? [Canal Plus] has no rights to any programming in Poland. How many studio output deals do they have? You can barely run a single channel with a single studio deal. Who are they kidding?"

But HBO's presence in Poland represents another legal — and political — minefield. HBO uplinks its Polish signal from Hungary, and Canal Plus is suing HBO in both the Polish and Hungarian courts, arguing that its signals are unlicensed in Poland and inadequately licensed in Hungary. Hungary is keen to enter the EU and, in preparation, has already ratified some of the EU regulations, including those covering broadcasting. HBO claims the EU's "Television Without Frontiers" directive permits its transmissions. HBO's detractors say its very presence in Poland makes a mockery of their own observance of Poland's media laws.

Suss calls the Canal Plus claims groundless. "We consider absolutely [that] we have the rights to broadcast," he says. HBO does not expect an early decision from the Polish courts, which are notoriously slow, partly because the dispute represents new ground for the Polish legal system.

At Entertainment is loyal to the Astra satellite DTH platform, and soft-launched its Wizja TV bouquet in July. It claimed to have signed up 3,000 subscribers within the first two weeks and that inquiries were running "at 22,000 calls a week." Wizja TV will have its full launch on Sept. 18, with Philips Media set-top decoder boxes available from 1,000 stores by November. Fowler used the announcement to add music channels MTV and VH-1 to his bundle, and promised new subscribers three months of HBO free of charge.

Canal Plus Polska's CEO Lew Rywin is dismissive of the competition and considers his company's five-year exclusive rights to Polish Premier League soccer to be key. At Entertainment's Fowler is unimpressed. "Polish soccer is not the driver that soccer is in their other markets," he says. Rywin holds steady against the criticism. "In every market sports is a major driver, and football here is as big as in any other country," he replies. "When I hear Bob Fowler say that Polish [soccer] is not going to be decisive here, it only assures me he may be a great financial guy but a poor TV manager." Strong words, but ones that reflect the market's intense, new level of commercial TV competition.

FOWLER

Meanwhile, Canal Plus has signed with Eutelsat's "Hot Bird" satellite, Astra's arch rival. Why Eutelsat? "We will build up to 21 to 24 channels within a year, and all the Polish commercial stations are already operating on Eutelsat, including Canal Plus Polska," explains Rywin. "We are all neighbors, which helps a lot, and we do not have to get into the gamble of re-siting dishes," he adds. Rywin estimates customer confusion in Poland will trim 7 percent to 10 percent from the Canal Plus business plan. He said he expects public broadcaster TVP to join the Canal Plus platform with existing and new channels. "It is essential to my project to have TVP, Polsat and TVN [from CME] on this platform," he says. "This is my road to success."

At press time, TVP was still deciding whether or not to join Canal Plus. But it also has ambitious plans, which depend totally on satellite and cable for development. TVP's new channels, according to Chelstowski, include its pop-music channel, Only Music, plus planned educational, news and a cooking/do-it-yourself service, which may be the first to air.

"In the end, one combined [satellite] platform would be the best for Polish viewers."

— Walter Chelstowski, TeleWizja Polska (TVP) board director

"We have other dreams, but we have to balance them with financial prudence," he says. That financial prudence might see TVP enter into commercial partnerships with other broadcasters. "We are discussing with commercial broadcasters how we might share the investment needed to bring these channels to air," says Chelstowski. "We can create new channels tomorrow, but to enter any sort of joint venture needs the legal approval of our supervisory board, the Treasury Ministry."

Looking at the big picture in Poland, Prudential Securities analyst Melissa Cook's view is that the country is a booming market, with TV advertising currently at $450 million and estimated to grow to $600 million this year "and to as much as $1 billion over the next three years."

With such advertising growth and a quite reasonable target of 2 million premium pay TV subscribers to aim for over the next nine or so years, the future looks good. Whether the audience will favor "imported" channels or locally produced material is a big question mark. At Entertainment's Fowler is convinced his package is right. But so is Rywin of Canal Plus. ■

Canal Plus' Polish headquarters in Warsaw.


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AS THE WORLD CHURNS

Like the common cold, there are some problems that just won't go away for the multichannel television business. Such is the case for that word everyone loves to hate: churn, a term referring to subscriber defections.

There are some cable systems and direct-to-home platforms that have reason to dislike the word a lot more than others — and some that are finding innovative ways to overcome the problem. The following case studies of companies operating in Brazil, the United Kingdom and the Mideast show tactics just about as different as their geographic locations.

Brazil's Asian Flu

By José Eduardo Mendonça

When tremors from the Asian financial crisis were felt in Brazil a year ago, the country's largest cable system received a rude awakening to an alarming new problem.

"Before the crisis we were not paying too much attention to churn," says Antonio Barreto, director general of Net Brasil, a division of Brazilian cable giant Globocabo. "You don't keep on thinking about it when you are growing 10 percent per month."

Before that time, Net Brasil had been amid a very strong process of acquisitions, and was pretty much focused on that. Then, after the crisis, "churn rates went higher than normal; we had to quickly shift our priorities," Barreto recalls.

While Barreto won't divulge how high churn soared, he does say it was above the 15 percent level to which Globocabo had been accustomed.

The economic slump and the consequent decline in consumer demand were factors that helped light the churn fire. And they also help explain the service disconnects and virtually flat subscriber growth across the entire Brazilian pay TV industry in the first quarter of 1998. Nevertheless, churn had been felt for some time, and year-to-year subscriber growth had declined to 50 percent in 1997 from 100 percent in 1996.

Globocabo's largest concerns regarding churn were at Multicanal, the 650,000-subscriber multiple system operator (MSO) it acquired last year. Its solution was to target a different audience. "Multicanal was focusing too much on sales for the [middle- and lower-income] C and D classes. And with them you will always have high churn. So we had to reposition our sales with an emphasis on the [higher- and upper-middle-income] A and B classes in the first quarter of this year," says Barreto. As a result of this repositioning, the churn rate fell back to its historic norm of 15 percent.

The C class encompasses about 35 percent of the Brazilian consumer market and represents a huge source of revenue. When C-class consumers subscribe to pay TV spontaneously, they are typically loyal and pay the monthly fees, according to Barreto. But that's apparently not the case when cable companies try to lure them with aggressive marketing campaigns, especially at a time when money is tight. "This target is much too sensitive to price," he says.

Another action taken by Globocabo to crack down on churn at Net and Multicanal was to reduce the time that subscribers could delay payment before having service disconnected. Instead of 90 days, the cut-off is now 60 days. The action accompanies Globocabo's effort to gain a more accurate view of its paying subscriber base.

Everyone, it seems, has an opinion on what produces churn and how to solve it, particularly among the all-important C class. José Luiz Fraudendorf, director of the pay TV consulting firm Virtual Company, in São Paulo, believes that one of the reasons for high churn rates is that the cable industry is perceived by the public to offer poor service. "You only have to

"We were not paying too much attention to churn. You don't keep on thinking about it when you are growing 10 percent per month."

— Antonio Barreto, director general, Net Brasil

take a look at complaints about cable with consumer associations. When a person has this kind of perception, he does not think twice before he stops payments. It is not a priority," he says.

Fraudendorf believes that to help keep customers loyal, operators will have to offer additional services, like telephony and Internet access.

Barreto debates whether or not quality is the issue. "I don't think it is the point," he says. "The C class does not have this perception. And within the A and B target we seem do be doing fine since we are keeping [churn] rates at historical levels. And I think they are also satisfied by the fact that we are delivering more programming all the time."

Alexandre Annenberg, president of the Brazilian Pay Television Association has his own suggestions for keeping customers loyal. "Operators will have to think if the products they are offering are up to the job. They will have to offer cheaper programming packages and also additional services if they are to expand their bases and reach the C class, which seems everybody is trying to do," he says.

On the programming front, Annenberg sees a problem. Operators cannot offer cheaper programming packages because they are tied to must-carry clauses with programmers that require them to carry all of a supplier's channels and give them no flexibility to create new products. "Programmers have to start to discuss this with operators," Barreto adds.

Barreto sees the greater challenge in matching price and programming to the audience. "We still don't know how to meet the demand of these new audiences. Besides the price, what are the C and D class willing to accept culturally? We will have to take more risks, and we are figuring how do this," he says.

With Brazil's cable-licensing process, albeit on-again, off-again, expected to bring in a tidal wave of new subscribers into the market, operators are more anxious than ever to challenge churn. "We will have to start figuring how to reach people in small towns. And then the question of how to reach local communities will be a tantamount one," says Barreto.

British Boasting Rights

By David Falkus And William Mahoney

To understand why churn is such a hot issue to cable operators in the United Kingdom, compare churn rates here with those of other major European pay TV operators. According to market researcher Gemini Consulting, the average U.K. churn rate is 30 percent, compared with 7 percent for France's Canal Plus; 9 percent for Television Par Satellite, also of France; and 10 percent for British Sky Broadcasting.

However, one British operator, NTL CableTel, stands out among U.K. cable operators with churn at just 11 percent to 12 percent. Overall, U.K. penetration averages 22 percent; once again NTL shines, with penetration in its franchise area in the mid-30s.

NTL thinks some new efforts can drive its churn rate down even further, according to Michael Boyd, sales and marketing director. "Certainly, single digits is our aspiration," he says. "Part of our culture is that there isn't a level [of churn] that we would ever be comfortable with. We will always be trying to make [NTL's churn rate] a little bit better."

Boyd was instrumental last month in rolling out a new marketing approach at NTL, whereby basic telephony subscribers can opt for cable TV, Internet access or a second telephone line for just £8.87 ($US14.62) a month. NTL officials believe the new bundling offer will help to retain customers even more. That's because the monthly fee is the same as what British Telecommunications plc charges its customers just for basic telephone service.

NTL's new choices also offer subscribers the ability to add one additional service from among those three options — cable, Internet or a second line — for £5 ($US8.25) a month as a way to sweeten the deal. Boyd believes the choices will appeal especially to customers looking for new online access or services.

"We're quite confident that the Internet will play a big part in the future for us and for our customers, and we want to make it as easy a transition for our customers to make as humanly possible," Boyd says.

Overall, NTL attributes its very low churn rate to three main elements: focusing on selling small basic packages at low prices; pushing a cable-plus-telephony package that includes monthly telephone-service charges; and offering customer service it claims is "second to none." All three elements are cited by U.K. analysts as key ways to keep churn down.

"Bundling TV and telephony means a much closer relationship with the customer," observes Amanda Paterson, management consultant with London-based Arthur D. Little, a strategy adviser for cable operators. "Telephony is the more profitable part of the business, so shifting customers to dual services is definitely the way forward, alongside mini-basic packages targeted to customer requirements."

"We've also coupled that with what we believe is really an extremely high level of service," says NTL's Boyd. "That's really the backbone of what we've built this platform on."

Paterson notes that "U.K. cable churn in general has been declining, as MSOs improved their customer services."

NTL played a leading role with regulators and programmers in changing the standard practices for the way packages were offered to U.K. consumers.

"NTL has led the regulatory charge for something that, four to five years ago, the industry wasn't together enough to start battling for in the High Court and with the [Independent Television Commission] and other regulators, and with the programmers themselves," says Richard Woollam, former director general of the U.K. Cable Communications Association.

"Part of our culture is that there isn't a level [of churn] that we would ever be comfortable with. We will always be trying to make [NTL's churn rate] a little bit better."

— Michael Boyd, sales and marketing director, NTL CableTel

NTL's headquarters.

"The early investors in U.K. cable came from the U.S., where culturally customers could live with paying 20 cents or 25 cents for an unwatched channel," adds Woollam, now managing partner of The European Communications Network consultancy. "In the U.K., consumers say, 'Why should we be paying for a channel we don't want?'"

NTL began pushing smaller basic packages when it started testing a tiered approach in the Luton area, just north of London, with basic packages well under £10 ($US16.50). The pricy U.K. average cost of basic at around £13 ($US22) has always been cited as a reason U.K. churn was high.

"In countries such as the Netherlands, Belgium and Luxembourg, churn is very low, and the penetration stays around 95 to 96 percent of the cabled homes," says Marcel de Sutter, president of the Association of Private European Cable Operators. "In these and other European countries, subscription fees for a 30-channel-plus basic, including tax, is $12 to $13 a month. The U.K. fees are much higher."

British Sky Broadcasting's dominant control over the bulk of the U.K. programming, and its relatively high price for providing those channels to cable operators, is another factor that's kept U.K. basic fees — and, by extension, cable churn — high. NTL has tried to avoid that trap.

Because the company was "later into the market than others, we learned from their experiences," says Will Robson, public relations manager of NTL Group.

"[Others], depending heavily for penetration-boosting content on BSkyB and other owners of popular programming, signed contracts guaranteeing those programs would reach at least 80 percent of homes connected. These minimum carriage requirements ensured programmers in big basic high returns, but these legally binding agreements blocked 'unbundling' and 'retiering,'" he adds.

NTL didn't sign into minimum carriage requirements, "so, after much research asking customers what they wanted, we could offer smaller packages, omitting unwanted channels," Robson notes.

Well after NTL embarked on its churn-busting and penetration-

Continued on Page 44

TECH TREK

DTT Makes Its Multichannel Bow

The members of DigiTAG, the Digital Terrestrial Television Action Group, are closely associated with a number of digital terrestrial television (DTT) services and products that will be launched in several countries over the coming months.

The debut of DTT technology will come first in the United Kingdom, which will lead with six multiplexes, carrying 10 new free-to-air and 15 pay TV services, beginning around November.

Sweden will be next, with two multiplexes at the turn of the year, and further multiplexes to be added in quick succession to satisfy the high demand from potential service providers. Spain will probably then be third to launch, with the extensive prospect of up to 11 multiplexes each in the areas of national, regional and local program services. The Spanish government is expected to soon invite applications for licenses to provide the service, which could begin in summer 1999.

TECHNICALLY SPEAKING

BY EDGAR WILSON

A guest commentary column on technology-related issues.

A number of other countries are closely studying the prospects for DTT, and announcements about plans to launch services in the next few years are likely to be made in quick succession. Looking ahead to its debut, there are two main arguments in favor of DTT. First, the viewer makes use of the same aerial that is used for analog terrestrial TV. Second, the reception by portable TVs using set-top antennas accounts for an important segment of viewing in many countries, and DTT is the only method of delivering digital TV to portables and even mobile receivers.

Also, the efficiency of digital terrestrial transmission, both in energy terms and service capacity, makes the longer-term replacement of analog terrestrial television inevitable. Analog television is by far the biggest broadcast delivery means in many countries, and many viewers are relatively content to continue watching a few favorite channels, with no major wish to upgrade their reception possibilities. With digital terrestrial, a significant incentive will be offered for the general public to upgrade to digital when the time comes to replace their old TV.

In this respect, DigiTAG believes in the vital importance to the mass market of integrated digital TVs. The extra circuitry for digital reception can be included in an integrated digital TV set at an acceptable price differential over the analog equivalent. When the viewer is making his buying decision, he may well be swayed by the extra free-to-air programming he will receive digitally from well-

Continued on Page 37

FiberTel's Nofal hopes to score with cable modems for businesses and the home.

Argentina's CableVisión Gets Down to Business

BY CRAIG KUHL

Argentine cable operator CableVisión/TCI[2] is getting down to business — business services, that is.

The Buenos Aires-based MSO, which entered the cable business in 1981, now reports 1.5 million cable subscribers after adding more than 800,000 customers through three key acquisitions over the last year: It bought half of the country's formerly No. 3 MSO, Video Cable Comunicación, 100 percent of Mandeville Cable Partners and two of United International Holdings Inc.'s Argentine systems. Yet, it's the lucrative business sector of Buenos Aires, Argentina's capitol, that has piqued CableVisión's attention.

Approximately one-third of Argentina's 36 million people live in Buenos Aires and its suburbs, and the country's most populous city is not only the business center for Argentina, but for much of South America. For that reason, CableVisión is well positioned to take advantage of its technical leadership in cable modems, Internet access and high-speed data services, and it is aggressively marketing these new services to businesses throughout the country.

"In our market, 80 percent of the communications in Argentina are located in the micro-center of Buenos Aires," says Daniel Nofal, director of operations for FiberTel, a wholly owned subsidiary of CableVisión that provides Internet services to the city's business district. "The most important businesses are right here, and we see our existing networks in Buenos Aires as a great advantage. Most of these businesses need at least Web connectivity because they speak over the Web, especially the international companies, such as import/export firms."

CableVisión is connecting businesses—office by office—in Buenos Aires.

CableVisión has postured itself as "very aggressive with bandwidth," Nofal says, and is now selling high-speed links to other service providers, "because we now have the technology to offer different services," he adds.

One of CableVisión's suppliers is Com21 Inc., a U.S.-based provider of return path technology. "They saw an opportunity to serve the business market, and saw our technology as an easy way of doing return path," says Bill Gallagher, vice president of sales for Com21.

CableVisión is connecting businesses — office by office — in Buenos Aires, yet the company's path (and return path) to the business sector winds through the residential sector as well. "Our customer base is residential," Nofal says. "We need to find ways to get to the core market because they

TECH TREK

almost all work in business."

One way CableVisión is reaching its core market is through its *CableVisión* magazine, which reaches 700,000 subscribers on a monthly basis with updates on cable modems for business and the home, Internet access and the advantages of transmitting high-speed data.

"We're preparing ourselves for the next technological level, which is two-way return path," Nofal says. "We'll test two-way this year."

CableVisión, Nofal adds, is planning to deploy two-way cable modems following the tests. "We are still doing a lot of work cleaning the return path. It's a major task," he says. "Our goal is to have all of Buenos Aires tied into two-way service in two years."

The company recently announced a deal with 3Com Corp., a leading U.S. provider of Internet services and cable modems, that brings to CableVisión the technology it needs to provide a mix of telephony and cable return paths, both one-way and two-way.

CableVisión, Nofal concedes, has just 1,500 cable modems deployed, but that number is expected to grow quickly. "We only started marketing the modems earlier this year," he says. "But, with our 3Com contract, we now have the technology for two-way solutions."

"We will begin with telco return and help them migrate to two-way," says Bill Markey, director of marketing for 3Com. "This is huge for us. It will be the first commercial deployment of a DOCSIS [Data Over Cable Service/ Interoperability Specification]-based product outside of North America, with the service being offered to 600,000 subscribers"

According to Com21's Gallagher, the South American market for cable modems and two-way return technology has been favorable. "CableVisión has been very aggressive and is an operator maximizing its leading-edge position in the business market,

CableVisión's penetration rate stands at 50 percent with 2.7 million homes passed.

which is very fertile for point-to-point services," he says.

CableVisión has also been aggressive in plant construction. Since 1995, it has invested almost $50 million in 2,200 miles of coaxial and fiber optic cable with 750 megahertz bandwidth capacity.

By 2002, CableVisión expects 75 percent of its systems to be 750 MHz. CableVisión's penetration rate stands at 50 percent with 2.7 million homes passed.

The company and its 3,000 employees offer a basic 65-channel lineup for $33 per month that includes several local cable channels.

The future for CableVisión, however, is in the business sector, executives say.

"We have gained several important business accounts in the past year, including more than 90 banks in Buenos Aires," says Nofal. "Now, we are starting to push our cable modem service, which is very flexible, and we are very price aggressive for Internet connections. We can offer cable modem service from $200 to $2,000 a month, depending on the requirements. The last mile can now be with a cable modem." ■

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Talking Back to the Television Set

Developers Eye Concert of Voice-Activated Set-Tops

BY HANK HOGAN

After years of being confined to research laboratories, speech recognition is elbowing its way to the fore, and it could one day allow users to control their set-top boxes.

Recently released computer programs take dictation at up to 160 words-per-minute with 95-percent or better accuracy. This summer, a voice-enabled in-car computer for the North American market is scheduled to debut from Clarion Co. Ltd. of Japan. And consumer electronics giant Philips Electronics N.V., of the Netherlands, and other companies, such as tiny Advanced Recognition Technologies, Inc., of Chatsworth, Calif., make the technology behind voice-enabled phones that dial upon a spoken command.

As for televisions and set-top boxes, no one makes a voice-enabled version yet, nor are there any product announcements for such a beast. There are, however, signs that something is brewing.

"No one is talking about it publicly, but they're all talking to us and companies like us. They all want to do this," admits Erik Tarkiainen, director of product marketing for Belgium-based Lernout & Hauspie (L&H) Speech Products N.V. L&H is the largest independent speech-technology company in the world. Software giant Microsoft Corp. has invested in the company, and L&H's technology is found in everything from phones to automobiles to computer operating systems.

There are several reasons why there is this interest in televisions and set-tops that understand the spoken word. The first is that for some applications, such as TV-based Web surfing, voice commands would be ideal.

Currently a user must click through one choice after another on a screen until the desired one is reached. If implemented correctly, voice commands would make the process faster and less frustrating. Users would simply select an option by naming it, without having to wade through multiple choices.

Voice-recognition tools, such as Philips' SpeechMike, could provide easy Web surfing.

There have been reports that Microsoft is teaming up with L&H to create a set-top with these capabilities. However, no official word on such a product has been released yet. According to a Microsoft spokeswoman, the company is evaluating speech input on an ongoing basis, and will implement it for a given product if it will benefit users.

The second reason why speech input is so attractive involves something more than simple command and control of a device. Adding intelligence as well as speech input to something like a video recorder, for instance, could be of real value to consumers.

"With a video recorder, you should say, 'Please tape me tonight my favorite football program,' or something like this, and it should automatically know what you mean. It should then automatically put this in the right command which is needed then for the system, so it would automatically record it," says Philips Speech Processing spokesman Ralph Preclik.

Philips is busy applying speech-recognition technology to operating systems, products, and semiconductors. According to Preclik, the implementation of speech recognition is being done on a product-by-product basis, and only if there is some compelling benefit for the consumer.

Eventually, Philips expects speech-input tools will join the mouse, keyboard, and keypad as a standard input device. That's a view shared by Microsoft.

However, there are some unpleasant facts standing in the way of this vision of voice-enabled computers, televisions, and video recorders. The consensus at Microsoft, L&H, Philips and elsewhere is that consumer speech-recognition applications demand high accuracy, low price and speaker independence. Ideally, any voice input would work across a room. Unfortunately, this combination is hard to achieve with today's systems.

The human ear and brain are adept at plucking meaning out of speech, even in noisy or less-than-ideal environments. According to L&H's Tarkiainen, for instance, the telephone network imposes roughly a three kilohertz limit on conversation, while normal speech can hit frequencies as high as 9 KHz. For machine-based speech recognition, that lost information can be crucial while, for people, it's at worst a nuisance. The result is that humans can understand each other over the phone, but today's computers can only respond to simple commands.

What's needed for machines to be as accomplished as people is more computing power. Historically, processing power doubles every few years. That's why Tarkiainen fully expects machine transcription of telephone conversations, courtroom proceedings, business meetings, and other settings to be possible within a few years.

For televisions and set-top boxes, on the other hand, tomorrow's advanced units will be fairly powerful computers in their own right. That's why speech recognition in these boxes may arrive sooner, perhaps with the new century. ■

TECH TREK

Technically Speaking,

Continued from Page 33

known and well-loved broadcast "brands." If he is interested in premium movie and sports pay TV services, but unsure of committing to direct-to-home satellite and the equipment it entails, he may also be drawn to purchasing a TV set capable of receiving DTT.

Present-day analog TVs are extremely reliable, and the replacement cycle is typically five years to 10 years. Digital services must begin as soon as possible — to get the public interested in the new programming — if markets hope to switch off analog transmission in the foreseeable future, perhaps around the year 2010.

DigiTAG is keenly pursuing open-market strategies that will make the integrated digital TV a universal appliance manufactured and marketed without barriers to trade. DigiTAG's aim is to make local variations unnecessary to ensure that, although there will be wide variation in the programming and services offered, the consumer product required to receive them will be universal.

The technology of DTT has been under test and field trial for several years, and the circuitry to manufacture consumer receivers is now beginning volume production.

At the same time, national regulators in many countries have begun to construct the operating environment for DTT, commissioning reports on the possibilities for new programming in their countries and ultimately issuing invitations for license applications.

DigiTAG has members and expertise to cover all these areas, and the last two years we have been combining this knowledge to advance DTT. While leaving the technical specification to the experts in the Digital Video Broadcasting (DVB) project, DigiTAG has issued several clarifying statements on a number of important topics:

• Enhanced television services. To ensure the successful uptake of products and services, we consider it vital that DTT meet consumers' expectations. The public perception, gained from the popularity of the compact disc for music, is that digital systems offer consistent quality and more facilities than the older analog methods. This means that in the case of DTT we must offer enhanced services, which should from the beginning include 16:9-proportion widescreen, and remain open to the evolution of high-quality video and sound. Delivery systems and receiver platforms should provide the means to support additional services such as broadcast multimedia. Internet access could also be important to ensure a rapid uptake of digital TV.

• Application Programming Interface (API). For many homes, digital TV receivers will be the first example of a multimedia platform with powerful processing capability and significant memory. Some of the features and services provided will be implemented as software applications that run on the platform. Some may be preinstalled, but others will be downloaded over the air through an interactive return channel, or provided as a plug-in module or smart card.

• Common Interface. DigiTAG is particularly keen to support the use of the common interface as a means of providing conditional access, upgrading software applications, and adding functionality such as audio description or off-board API enhancement. When the product is an integrated TV set, it is particularly important not to include proprietary technology which, if subsequently superseded or compromised, may prevent the

Continued on Page 39

Canada's NBTel Deploys in a Different Direction

BY JAMES CARELESS

In lobbying for a cable TV license in Canada, New Brunswick telco NBTel went to the expense of wiring 12,000 homes in the cities of Saint John and Moncton with hybrid fiber-coaxial (HFC). But now that it's won that license — the first-ever granted to a Canadian telephone company — NBTel has opted not to extend its HFC network to cover both cities. Instead, it's decided in favor of asymmetric digital subscriber line (ADSL), a cheaper technology that delivers high bandwidth over existing twisted-pair copper networks.

NBTel isn't the only Canadian telco to bail out of HFC. Recently, Bell Canada, which covers both Ontario and Quebec, decided to end its HFC trials as well. After taking a look at the costs, Bell declared that it was more economical to deliver TV signals to subscribers via ExpressVu, its direct-to-home satellite TV service.

Unfortunately, NBTel doesn't have its own satellite service. But it does have a sister company called ImagicTV Inc. (both are owned by parent corporation Bruncor Inc.) whose sole product uses Internet Protocol multicasting to deliver digital-TV signals over high-speed networks. Armed with ImagicTV, NBTel hopes to start rolling out its own pay TV services starting early next year.

Convenient corporate parentage isn't the reason NBTel chose ADSL. After all, ImagicTV works on HFC networks as well. Instead, NBTel selected ADSL because the time seemed right, says Gary Lund, NBTel's general manager of systems engineering.

The first deciding factor was the arrival of ADSL products that could integrate easily with NBTel's existing asynchronous transfer mode (ATM) core network. The second was the growing acceptance of this technology by other telcos, which has helped bring down the price of ADSL equipment.

In addition, Lund notes that the evolution from ADSL to the more advanced very high-speed digital subscriber line (VDSL) "is starting to become a little more clear." DSL technology enables everything from 1 Megabit-per-second modems, to up to 16 Mbps and 25 Mbps for VDSL. NBTel's own ADSL rollout envisages delivering 8 Mbps dedicated capacity to each subscriber.

The real question for NBTel was never about which transmission technology to use. As Lund himself says: "This is not about technology; this is about applications and the need for bandwidth, and applications to help people do everyday things better." Because his company wants to sell a whole range of two-way applications such as digital TV and high-speed Internet access, its goal was to find a medium — any medium — upon which it could build an affordable integrated-broadband network.

"We're trying to get bandwidth and speed to the customer on as wide a basis as we can," Lund points out. That's why NBTel has already converted its switching plant to digital, and pushed out ATM-over-fiber to within about two miles (three kilometers) of its subscriber base.

For NBTel, the HFC/ADSL debate is only about building the "last mile" between the telco and

its subscribers. Initially, "HFC seemed to be the logical choice for the last mile," says Lund. However, now that NBTel is satisfied that ADSL can do the job, it sees no point in paying for a costly HFC overbuild.

What remains to be seen is how well transmissions of ImagicTV over ADSL actually work in the field. At this point, the software is slated for official release in early 1999. Although Lund appears comfortable with its ability to "glue together" the various applications NBTel wants to offer over a single network, the proof will be in the pudding.

The ImagicTV rollout will happen gradually, and only after NBTel installs ADSL equipment in its network. So far, the telco does have some ADSL technology from Newbridge Networks (another ImagicTV shareholder) running in the town of Moncton.

"This is not about technology. This is about applications and the need for bandwidth, and applications to help people do everyday things better."

— Gary Lund, general manager of systems engineering, NBTel

Using this equipment, NBTel intends to test digital TV over copper in a "controlled fashion," he notes. Although the heat is on to get digital services to market, Lund says NBTel still intends to become familiar with ADSL first, "to make sure we understand the performance characteristics that run over an existing copper plant with bridge taps and so on; all the issues that you run into at the drops into the home, and what it takes to put a modem inside the home, and get it all working." He says Moncton will be the first test bed, then the towns of Fredericton and Saint John, where NBTel's existing HFC plant — which has some ADSL capabilities — will be brought into the trial.

ImagicTv and ADSL do seem to provide NBTel with an affordable alternative to HFC that makes the economics of running integrated broadband services work. Still, this is an ambitious venture and one that trades cost-savings for proven reliability. Whether the gamble will pay off remains to be seen. ■

Technically Speaking,
Continued from Page 37

public from making full use of its considerable investment in the product. Modules plugged into the common interface can add all necessary proprietary features for the services required by the viewer, and can be removed, replaced or added as the service needs change with time.

• Interactivity. This feature is highly desirable for the rapid uptake of digital TV because it provides a significant enhancement to the functionality currently available on analog services. The interaction may be "local" with the receiver (for applications such as games), or may be with full return-channel communication to the interactive-service provider to support applications such as home-shopping and telebanking.

Perhaps the best way of keeping up to date on DTT projects and related technology is to consult the DigiTAG Website at www.digitag.org. That is where we regularly post the latest information we receive from our international members.

Edgar Wilson is project manager of DigiTAG, based in Geneva, Switzerland.

TECH TREK

BLIPS ON THE SCREEN

Gambling,
Continued from Page 6
tions are likely to severely curtail foreign ownership.

Despite all of the troubles, three indigenous networks that have prospered in southern India — Sun TV, Udaya TV and Eenadu TV — have big expansion plans.

What has made these networks feel confident they can tide over these times? Ghote would probably snicker, "Deep pockets and a little help from one's political friends."

In India, it's not uncommon for program networks to enjoy close links with political parties. The Telugu-language Eenadu TV is owned by the Hyderabad-based industrial and media magnate Ramoji Rai. He helped mastermind the birth of the Telugu Desam Party, which presently rules Andhra Pradesh. Rai's newspaper, *Eenadu*, serves as a mouthpiece for the ruling TDP party, and he enjoys close proximity to the state chief minister Chadrababu Najdu.

The story is repeated nearby, where the razor-sharp duo of Kalanidhi Maran, CEO of Sun TV, and Sharad Kumar, CEO of Udaya TV, operate from the ruling Dravida Munettra Kazhagam Party headquarters lodged in the heart of Chennai.

Political clout alone will not make a channel emerge a winner. Sometimes, the worst of times are the best of times — at least that's what the cherubic Kumar says. "Recession is always the best time to expand," he contends. "When the market does pick up, as it is expected to do next year, we will be sitting on a gold mine." Kumar believes that even if the recession were to continue for a longer spell, he could use the gestation period to make his presence felt in the market. That was why he was gearing up to launch a second Kannada-language channel, a second Telugu-language channel, a Malyalam channel and two more Sun TV channels.

The south is also particularly fertile for regional networks because they can play on strong ethnic roots that command loyalty. And the viewership base extends well beyond India, reaching expat Indians throughout Asia.

Meanwhile, Hong Kong-based Star TV reportedly has plans to launch Gujarati, Punjabi and Bengali regional-language channels. And Sony is negotiating to distribute Hallmark Entertainment Network in India.

Discovery is hoping to do the same multiplying act with People + Arts and Animal Planet.

> *"When the market does pick up, as it is expected to do next year, we will be sitting on a gold mine."*
> *—Sharad Kumar, CEO, Udaya TV*

Kiran Karnik, CEO of Discovery India, points to economies of scale as one key factor in the network's expansion plans. "Once the infrastructure has been put in place for one channel, putting up more channels is less expensive."

Along with that, the relatively low cost of facilities and labor in India make the economics of running channels somewhat easier on the pocketbook than many markets.

On average, industry observers say that launching a new service in India costs around 300 crore rupees ($US71.4 million), while operational costs work out to around Rs85 crore ($US20.2 million) annually. The cost of launching a second channel is Rs150 crore ($US35 million) and a third channel costs Rs100 crore ($US25 million).

The top guns of Eenadu TV, coming out of Hyderabad, note not only the economies of scale, but also a changed perception in the marketplace. Raghu Kidambe, a senior manager of ETV, explains: "Three years [ago] when we started out, there was a market for only one Telugu channel. But now the mindset of the public has changed. An average family has six members, and during prime time every member wants to view a different program."

It is because viewers have become more choosy that niche channels are growing in popularity, he adds. During the last three years, Sun TV has extended its viewership to 100 million people.

Perceptions about whether ad revenue has kept up with an increasing viewership differ. Karnik believes "the overall ad pie went up 15 percent last year and this benefited the satellite channels, whose earnings from ad revenue rose by fifteen percent. Prasar Kharati Corp. gobbled up Rs1,300 crore [$US410 million], and the remaining one-third share was divided between Zee and Sun TV."

Kunal Dasgupta, CEO of Sony disagrees. "Whatever growth we have witnessed has been eaten into by a 7 percent rate of inflation. We in Sony believe in creating brands which will survive this recession, and for that one needs to have deep pockets," he says. ■

Menezes,
Continued from Page 6
the World Cup. But the signal was a mess. Menezes, who owned three gas stations and a truck, dropped the idea and only began to think about it again after a trip to the United States more than two decades later.

In 1992, Menezes sold the truck and one of his gas stations to raise money and set up shop, transmitting 11 channels to a 93-unit condominium building.

But the authorities threatened to close him down because he did not have a license to provide cable.

So Menezes made a pilgrimage to Brasilia, the Brazilian capital, to try to get one. He knocked on every door he could, to no avail. No new licenses would be granted, he was told. Actually, no licenses have been granted since then.

But Menezes wasn't ready to take orders from any smooth-talking bureaucrat: He had a dream. What he found was a loophole in the 1989 legislation that first regulated the distribution of cable TV signals. He decided to bet all his chips on an article of that legislation that said that closed communities, such as condos, did not need a license. Menezes was so staunchly backed by the locals — who were horrified at losing their cable service — that he convinced the town council to pass a law declaring the town a closed community. Menezes won the battle and hasn't looked back.

That sense of community continues in Currais Novos. Menezes has donated TV sets to schools, where 9,000 students now receive cable. He has done the same with hospitals and public facilities. And if a family needs to raise money to pay for health costs, Menezes will donate a cable subscription to raffle off.

With an old VHS camera, he produces local programming, filming Sunday mass, town council meetings, marriages and local news and events. "I invest every penny on equipment. I will now start to broadcast English classes that we are producing locally. I understand we can work as a social service provider, and I intend to do much more," he says.

Menezes, who proudly exhibits his company's home page on the Internet (www.sidys.com.br), already has something in mind: a local version of WebTV, the Internet-over-TV service. "I am investing in computers and I want to become a provider," he says. Not bad for a guy who did not finish college, who now has a company with 20 employees and a level of cable penetration that is the envy of any Brazilian cable operator. ■

Germany,
Continued from Page 6
vast cable system operations to deciding to regionalize its cable system operations and sell off either majority or minority interests to outside investors. That major new plan, in part due to pressure from the European Commission to limit Telekom's power as both a telephone- and TV-services monopoly, seems to have blurred some of Kreindl's visions of making the German giant even stronger.

"There simply is not much he can do right now but prepare things for after the sell-off," says one banker. Even Kreindl himself admitted at a recent media conference that, "until this [regionalization plan] is in place, all investments are on hold."

However, Telekom's delayed digital bouquet — one of Kreindl's key projects — finally lifted off in late August during the German consumer media market, CeBIT Home. It includes ethnic channels plus a game channel — much less than what Telekom originally had wanted.

On a bigger issue, Kreindl had hoped to march forward in upgrading Telekom's systems to 820 megahertz in order to make more services available.

German cable has been afforded a competitive window of opportunity as the country's digital satellite TV players have squabbled over the past few years, but it has been unable to take advantage of the discord because of the systems' technical limitations.

Although Telekom directly serves only about 5 million or 6 million of Germany's 17.5 million cable homes, it is still in the trigger position because it operates the entire backbone architecture providing most private operators with the signals for their clients.

In his vision with Telekom's new T-Media-Net cable project, Kreindl created a branding under which services by individual providers would have been bundled and marketed nationally. The new operation's vast infrastructure was set up in Munich. But its future seems to have vanished into the mist.

"In regionalized cable systems, you can't very well use a general packager," notes a Telekom marketing manager. He doubts that, in the long run, T-Media-Net will have any future. "You also can't use Telekom branding once you've sold off the majority of shares in the systems to outside investors," he adds. But he also agrees that the amount of influence Telekom will retain in its systems depends on how many shares Telekom keeps. It could sell off enough to ease the regulatory pressure without giving up control or its branding.

In the meantime, Telekom's moves in other related areas have angered and confused its cable partners. Telekom's prices for transmitting TV channels on its cable systems have risen as much as 70 percent for some providers. A number have complained officially against the hike, and have protested by continuing to pay the old price. So far, there has been no reaction from Telekom. Even Telekom's regional offices right now get no response when queried by their cable executives, sources report.

The launch of the digital package last month indicates that these times of uneasiness might be coming to an end.

However, any project that requires substantial funding will have to wait until the new partners have climbed into the boat and the new ownership structures for Telekom's regional businesses have been determined.

"Once that happens, things will move very, very fast," a source says.

As for Kreindl, he seems to be prepared for whatever turn his fate may take. He may go back to the consulting firm Telekom hired him away from, sources say. Then he could offer his visions for Germany's future to clients in the United States, the sources are convinced. ■

FORUM

Lost (And Found) In Space

By Mark R. Skidmore

When the Hughes Space and Communications Co.-built AsiaSat 3 satellite became stranded in a useless orbit on Christmas Day 1997, the mood here quickly shifted from one of holiday cheer to tension as engineers began to work night and day to devise a plan to salvage the perfectly intact — but useless — bird.

Working closely with the satellite's owner, Asia Satellite Telecommunications Co. Ltd., Hughes ultimately decided upon a strategy that would be a test of physics, logistics and nerve — a plan never before undertaken by private enterprise that would require worldwide coordination and precision down to the smallest measurement. All the meanwhile, Hughes had to deal with thousands of amateur and professional sky-watchers and shifting geopolitics here on Earth.

January 1998: With no immediate way to get AsiaSat 3 into proper orbit to meet its operational requirements, AsiaSat declared the bird a loss, settled with its insurers and transferred salvage rights to a group of underwriters. Hughes refused to give up. Donald L. Cromer, president of Hughes Space and Communications, asked his management team if there was any way to salvage the satellite.

Upon hearing the question, Ronald V. Swanson, president of Hughes Global Services, a subsidiary of Hughes Space and Communications that provides satellite-based communication services to government agencies in the United States and abroad, talked to longtime friend and coworker Jeremiah "Jerry" Salvatore.

Salvatore, a Hughes chief technologist for orbital analysis and operations, was intrigued with the request. Within a few weeks, he returned to Swanson with the notion that they might salvage AsiaSat 3 if they sent it around the moon and used the strength of lunar gravity to raise its orbit to geosynchronous altitude and tilt the satellite's orbital plane toward the equator.

During the following weeks, Hughes met with AsiaSat 3's insurers and negotiated an unprecedented arrangement whereby the title of the spacecraft was transferred to Hughes Global Services, which agreed to plan and execute the mission, and share with the insurers a portion of the profits generated when — and if — the satellite returned to a usable orbit.

It was a monumental and exciting challenge for Hughes. No other private entity had ever mounted a lunar mission or attempted to use a gravity-assist to position a communications satellite into Earth orbit. The challenges were many, but these kinds of out-of-the-box ideas are the foundation of our business.

Hughes formed a team to conduct the estimated $1 million mission that would attempt to return the satellite to a usable Earth orbit. A small core group of experts was assembled. Many others throughout Hughes participated, either by directly supporting the lunar fly-by mission team or by filling the gaps created when the core team members were reassigned to the salvage mission.

Hughes' Mission Control Center in El Segundo, Calif., was to fly the mission, with PanAmSat Corp., majority-owned by Hughes Electronics Corp., providing critical command and tracking support from its ground station in Fillmore, Calif. Indonesian satellite operator Satelindo's Daan Mogot ground station in Jakarta provided similar command and tracking support. Additional assistance was obtained from numerous other installations around the world, such as Brazilian telecommunications company Embratel's Guaratiba satellite ground station and Massachusetts Institute of Technology's Millstone and ETS facilities. U.S. Space Surveillance Network assets, including the Altair radar and various optical trackers, also furnished crucial, real-time orbital-position data.

Beginning April 10, the thrusters onboard the satellite — unofficially redubbed "HGS-1" — were repeatedly fired at successive perigees, the locations at which the satellite is closest to the Earth, to propel it further into space. Each burn was a critical part of the mission and had to work exactly as planned.


SKIDMORE

To our surprise, spacecraft watchers quickly noticed the satellite's unorthodox movements.

Hughes did not publicize the mission, preferring to hold off until after its successful completion. To our surprise, spacecraft watchers quickly noticed the satellite's unorthodox movements, and began calling AsiaSat, the insurers and us to learn why this apparently stranded, useless satellite was suddenly being moved. Many speculated that a first-of-its-kind lunar rescue was being attempted.

On April 29, Hughes Global Services held a press conference to announce the mission. On May 7, the last of a series of 12 firings of the onboard liquid fuel motor sent the satellite towards its lunar encounter. On May 13, the satellite passed around the moon.

The lunar fly-by was flawlessly executed. Every aspect occurred exactly as planned. The spacecraft's position at lunar encounter was within one mile of target. Loss and reacquisition of the radio signal, and entry into and exit from lunar eclipse, occurred within seconds of calculated values. Not bad for a six-day, 250,000-mile journey.

All was not well at one ground station, however. The Daan Mogot facility was tracking HGS-1's signal during its lunar fly-by. Unfortunately, the HGS-1 salvage mission coincided with rioting in Jakarta, and the ground station, while never ceasing operations, was located in the heart of the uprising. Fortunately, all those supporting the mission were unharmed.

As the satellite approached Earth, Hughes evaluated the mission results, which were universally positive, and decided to attempt a second lunar fly-by in order to further improve the resulting orbit. This would make the satellite usable by a greater number of ground receivers, thus widening the prospective market.

On May 16, the satellite's liquid motor was fired to slow the spacecraft, putting it into a 15-day orbit with an apogee, the furthest distance from Earth, of about 303,000 miles (488,000 km).

On June 1, HGS-1 was nudged into position for its second lunar encounter. It passed the moon again on June 6, at a distance of nearly 21,300 miles (34,300 km) from the surface, which is about five-and-a-half times further than the first encounter of 3,883 miles (6,200 km). On June 11, the onboard motor was used to change the orbital plane and reorient the satellite. After two additional breaking maneuvers, HGS-1 arrived in geosynchronous orbit on June 17.

Hughes Global Services is now actively marketing the HGS-1 satellite, hoping to sell or lease the entire satellite, though it cannot be used for its original purpose of transmitting direct-to-home television.

We were often asked why there was enough fuel onboard the satellite to send it around the moon, but not enough to raise the orbit and thus eliminate the need for the lunar-assist. The answer can be explained using the mathematics of orbital mechanics. In simple terms, however, it has to do with the plane of the satellite's orbit.

When HGS-1 was stranded on Christmas Day, its orbital plane was tilted 51 degrees relative to the Earth's equator. The Proton rocket booster's failed fourth stage would have provided much of the energy needed to flatten the orbit so that it was in the plane of the equator — that is, equatorial. The satellite did not have enough fuel on board to do this by itself, thus, the problem in search of a solution.

Much as a child's spinning top resists tipping, so does an orbital plane. Much less fuel would be used to simply send the satellite to the moon in its tilted plane than to directly attempt a plane change near the Earth. The moon's gravity, not fuel, would then flatten the plane and raise HGS-1's orbit to geosynchronous altitude upon return to Earth.

In essence, the satellite was able to coast freely around the moon, which flung it back into a flatter orbit. The power of lunar gravity is what made the salvage of HGS-1 possible.

Like so many of nature's gifts, if the moon can be understood and its power harnessed, it can benefit satellite manufacturers, launchers and ultimately users, worldwide.

Mark R. Skidmore, director of Hughes Global Services in El Segundo, Calif., was program manager for the Hughes Lunar Fly-by Mission.

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Vice Chairman

Mark D. Sena
SVP, International

CEA, GmbH
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D-80539 Munchen
Germany
Telephone: 49-89-2907250
Fax: 49-89-292568

Stephan Goetz
Managing Dir & EVP, International Ops

CEA Pacific Rim, Inc.
3402-04 One Exchange Square
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Central, Hong Kong
Telephone: 852-2845-5504
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Amy Chen
Managing Director

DIVICOM

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Andy Crossley
Director, New Business Development

DISCOVERY COMMUNICATIONS, INC.

Discovery Networks International
International Headquarters
7700 Wisconsin Avenue
Bethesda, MD 20814 USA
Telephone: 1-301-986-1999
Fax: 1-301-986-4825

Donald Wear
President, Discovery Networks International

Discovery Channel - Latin America/Iberia
6505 Blue Lagoon Drive
Suite 300
Miami, FL 33126
Telephone: 1-305-461-4710
Fax: 1-305-507-1560

Dawn L. McCall
SVP, General Manager

Discovery Channel - Asia
20 Loyang Crescent
Singapore 508984
Telephone: 65-548-0588
Fax: 65-548-0598

Kevin-john McIntyre
SVP, General Manager

Discovery Channel - India
Secular House
9/1 Institutional Area (Opp.JNU)
Aruna Asif Ali Marg
New Delhi 110 067
India
Telephone: 91-11-686-1909
Fax: 91-11-686-1911

Kiran Karnik
COO & General Manager

Discovery Communications - Europe
160 Great Portland St.
London W1N5TB
Telephone: 44-171-462-3600
Fax: 44-171-462-3700

Joyce Taylor
Managing Director

GENERAL INSTRUMENT CORPORATION

Broadband Systems Group
101 Tournament Drive
Horsham, PA 19044
Telephone: 1-215-323-1000
Fax: 1-215-323-1298

Ed Breen
President

Geoff Roman
SVP & GM Sales & Support

Matt Aden
SVP Worldwide Sales

General Instrument Corp. (UK) Ltd.
Broadband Networks Group
Imperium
Imperial Way, Reading
Berkshire RG2 0TD England
Telephone: 44-1734-755555
Fax: 44-1734-753933

Tony White
VP & Managing Director
Europe, Middle East & Africa

General Instrument Corp. (Canada)
1611 Courtney Park Drive East
Mississauga, Ontario L5T 1V9 Canada
Telephone: 905-564-6863
Fax: 905-564-1627

F.H. (Ted) Watkins
Managing Dir., Canadian Sales

General Instrument Corp. China Holdings, Inc.
Room 1256 - 1258
Media Center Office Bldg.
B-11 Furing Road
Beijing, 100038 China
Telephone: 86-10-6460-3951
Fax: 86-10-6460-3954

Kan-Wei Wu
Managing Director

General Instrument Corp. (Hong Kong) Ltd.
29/F, 38 Russell Street
Causeway Bay
Hong Kong
Telephone: 852-2587-1163
Fax: 852-2587-1093

Tom Jackson
VP & Managing Director
Asia Pacific Sales

General Instrument Corp. (Brasil) Ltd.
Rua Gildasio Amado 55/1102
Barra da Tijuca
Rio de Janeiro CEP 22631-020 Brazil
Telephone: 5521-494-3132
Fax: 5521-493-6069

General Instrument Corp. (Argentina) S.A.
Juaramento 2089, 5V Piso Of 501
Buenos Aires 1428 Argentina
Telephone: 541-788-4567/4475
Fax: 541-788-0525

Mike Pulli
VP & Managing Director
Latin America Sales

HALLMARK ENTERTAINMENT NETWORK

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Fax: 1-303-220-7660

Mark Grenside
SVP, Worldwide Sales

Jodie McAfee
Director, Marketing

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Fax: 1-301-258-3256

Jack Albert
SVP, General Manager

Richard Greco
SVP, Marketing

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Malcolm Tallantire
VP, European Sales

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Fax: (770) 821-2700

Chuck Kaplan
Manager, Broadband Communications

Brian McCarthy
Vice President, Sales

PLAYBOY TV LATIN AMERICA

404 Washington Avenue, Penthouse
Miami Beach, FL 33139
Telephone: 1-305-894-3500
Fax: 1-305-894-3603

Gino Natalicchio
General Manager

Suzanne Jewell
Director of Marketing

Matthew Chamberlin
Director of Operations

Ana Maria Gutierrez
Marketing Coordinator

Ana Maria Viaud
Traffic Coordinator

SKYCONNECT

1172 Century Drive, Suite 200
Louisville, CO 80027
Telephone: 1-303-218-9100
Fax: 1-303-218-9112
email: beverett@skyconnect.com

William P. Everett, Jr.
SVP, Sales & Marketing
1-303-218-9105

TERAYON COMMUNICATION SYSTEMS

Headquarters
2952 Bunker Hill Lane
Santa Clara, CA 95054 USA
Telephone: 1-408-727-4400
1-888-7-TERAYON
Fax: 1-408-727-6205
email: info@terayon.com
www.terayon.com

John Hamburger
Director, Corporate Communications

North America - West
6312 Fiddlers Green, Suite 200N
Englewood, CO 80111
Telephone: 1-303-486-5988
Fax: 1-303-771-0800
email: jdelazaro@terayon.com

North America - East
One Northwinds Center
2475 Northwinds Pkwy, #200
Alpharetta, GA 30201
Telephone: 1-770-753-6161
Fax: 1-770-753-6160
email: mstalica@terayon.com

South America
Av. Paulista, 2202
Esc 55 CEPO 1310
São Paulo, Brazil
Telephone: 55-11-287-7578
Fax: 55-11-287-5337
email: fares@lotier.com

Europe
Regus Office Center
Waterloo Office Park
Dreve Richelle 161/N
B-1410 Waterloo
Belgium
Telephone: 32-2-352-87-30
Fax: 32-2-352-88-30
email: edumont@terayon.com

Japan Distributor
Cross Beam Networks Corporation
14F Harmony Tower Building
1-32-2 Honcho, Nakano-ku
Tokyo 164, Japan
Telephone: 81-3-5371-3561
Fax: 81-3-5371-3568
email: kino@xbeam.co.jp

TIMES FIBER COMMUNICATIONS

World Headquarters
348 Hall Avenue
Wallingford, CT 06492
Telephone: 1-203-265-8500
Fax: 1-203-265-8422

Timothy F. Cohane
President

Alice Geary
International Sales Manager Inside Sales
1-203-265-8462

TFC/Denver
8400 E. Prentice Ave. - Ste 550
Englewood, CO 80111
Telephone: 1-303-793-3500
Fax: 1-303-793-3016

Stan VonFeldt
VP, Worldwide Business Development

Gary Williams
VP Sales Asia, Europe

TFC/UK
Unit 18, The Maltings
Station Road
Newport, Essex- U.K. CB11 3PL
Telephone: 011.44 1799.542836
Fax: 011.44.1799.542837

Julie Battles
Office Manager

TFC/The Netherlands
Telephone: 31-30-6358029
Fax: 31-30-6377034

Stephan N. Hoogendoorn
Distributor Manager

TFC/Latin Americas & Caribbean
Telephone: 512-258-2316
Fax: 512-258-2316

Jim Orwick
Worldwide Business Development

TFC/Brazil
Telephone: 55-51-9817147
Fax: 55-51-2481902 Home Office
55-51-3367609 Office

Eduardo Pauletti
Manager, Latin America

TFC/South America S.A.
Tucuman 540 - Ste. 28 "C"
Buenos Aires, Argentina
Telephone: 54 1 325 3471
54 1 325 7244
Fax: 54 1 327 1339

Fernando Tejo
Director

TFC/Asia
Telephone: 81-03-3584-0928
Fax: 81-03-3584-0937

Zak Raley
International Sales/Marketing Coordinator

TFC/Canada
c/o The Renfrew Corporate Centre
210 Lockiel St. So.
Renfrew, Ontario, Canada K7Z 2 Y6
Telephone: 1-613-432-8557
Fax: 1-613-432-6888

Terry Pierce
Manager, Marketing Services

Changzhou Times Fiber/China
Changzhou, Jiangsu, ROC
Telephone: 86 519 510 6004
Fax: 86 519 510 5897

TURNER INTERNATIONAL INC.

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Atlanta, GA 30303 - USA
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Fax: 1-404-827-4227

Madeleine Wiener
VP, Marketing
CNN International & CNN En Español

Bridget Sweeney
VP, Marketing
TNT & Cartoon Network

Turner International Argentina S.A.
Florida 981 - Piso 3
1005-Buenos Aires, Argentina
Telephone: 541-312-9900
Fax: 541-312-4581

Daniel Lombardi
Regional Marketing Manager

Turner International do Brasil, Ltda.
Rua Jardim Botanico, 126
CEP 22461.000 Rio de Janeiro-RJ - Brazil
Telephone: 5521-286-6577
Fax: 5521-286-3898

Leila Santos
Regional Marketing Manager

Turner International Mexico, S.A.
Av. Presidente Mazarik
61-301-Col, Polanco
11560 Mexico D.F.
Telephone: 525-250-1489
Fax: 525-250-1266

Marcela Cabrera

WAVETEK

Austria
Wavetek Ges.mbH
Telephone: 43-1-813-5628
Fax: 43-1-813-2426

China
Wavetek Corporation
Telephone: 86-1-500-2255-2768
Fax: 86-1-500-8199

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Wavetek S.A.
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Israel
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Mr. Yaron Polak
President & CEO

Ms. Riki Allon
Executive Vice President & Chief Operating Officer

Mr. Enrique (Zvi) Sever
Vice President Marketing & Sales

WORLDSPACE CORPORATION

2400 N Street NW
Washington, DC 20037
Telephone: 1-202-969-6000
1-202-969-6231 Direct
Fax: 1-202-969-6001
e-mail: svalenzuela@worldspace.com

Ms. Susana Valenzuela
Director, Global Advertising

Churn

Continued from Page 32

boosting tiered-package strategy, fellow operators Cable & Wireless Communications plc and Telewest Communications plc introduced similar marketing schemes — now the status quo in British cable.

The next big challenge for U.K. cable operators will be to make sure that Sky doesn't lure away subscribers after it launches its new digital service on Oct. 1. NTL officials promise they've got some strategies up their sleeve for using digital to help them maintain or improve on their already low churn rates.

"We will be making an announcement [in September] as to how we plan to roll out digital to customers," says Robson, "and we certainly believe that it is going to be a major revolution in the way television is viewed."

Gulf TV's New Attitude

By Chris Forrester

Imagine having to control churn in a pay TV system that is marketed across a couple of dozen countries, each with its own laws, business practices and customs. Imagine having to create a set of plans to address some of the highest per-capita incomes in the world that are right next to some of the lowest. Imagine markets where there is only a limited postal system, where having a telemarketing operation might mean that almost every call is long distance.

The person coping with those problems every day is Peter Einstein, chief executive at Gulf DTH, the Viacom Inc.- and Kuwait Investment Projects Co.-owned digital pay TV platform in the Middle East. He laughs as he admits, "Some things are a little different here."

Kagan World Media, in its 1997 report on the Middle East, described multichannel TV as still being "in a state of infancy." That was certainly the state of affairs inherited by Einstein some 18 months ago when he was recruited from MTV Networks Europe. He admits churn was a problem then. Under the previous management regime, customers were automatically switched off with absolutely no forewarning if a subscription lapsed. There's little wonder that insiders say this caused mayhem, and was altogether too hasty a system for a market where long-term absence from home is commonplace.

EINSTEIN

Einstein's been working hard to cure those churn woes at his operation, which is marketed to consumers under the Showtime banner, and operates out of Dubai, one of the United Arab Emirates. Dubai is a freewheeling sort of place that sees itself as the next Hong Kong, building on its abundant oil wealth and natural enthusiasm for trade. Showtime's prime market is the Arabian Gulf, in particular Saudi Arabia and Kuwait, as well as the potentially enormous market of Egypt.

Since Einstein's arrival on the scene, a totally different philosophy now rules at Showtime. Einstein assumes a customer wishes to renew "because how many people — anywhere in the world — make a date in their calendar saying, 'time to renew the sub.' It simply doesn't happen." The new attitude seems to be working, with the subscriber count up 50 percent in under six months.

Showtime's target is to keep churn below 2 percent a month, which Einstein says the platform is now achieving. He declined to be more specific either on the current status, or the specific churn situation 18 months ago. Certainly there are critics, notably arch rival Orbit Satellite Television & Radio Network. Orbit's senior vice president of operations, Allan Garner, asserts, "We are doing far better than 2 percent, which in my view is high." However, Garner declined to give any data to support Orbit's claim.

Contacting customers for any pay TV operator is a major problem anywhere in the Middle East. The postal system is poor, and even post-office boxes might only be visited occasionally. In Einstein's view, direct mail is simply not an effective option. "We use tele-sales, which costs far more, especially if we are calling people in Saudi Arabia from Dubai, for example," he says.

Instead, Showtime is training its in-country distributors to also act as a local telephone [illegible] chasing renewals. The dealers have attractive incentives designed to boost results. "A local service [is] simply a more efficient means of getting to the consumer, although it's easier said than done," says Einstein, who stresses the importance of training and retraining staff. "Anyone can put a couple of tele-sales people in a room, but whether they are effective is another question."

Showtime launched two years ago and early on was largely a cash-and-check operation. Einstein's objective was to quickly change that to direct-debiting of viewers bank accounts or credit cards.

"It's a convenience for customers. They don't want the hassle of getting reinstated," he notes.

As a result of this change to the direct-debit system, Einstein says Gulf has practically no churn on that side of the business.

Showtime is happy to take cash, but that creates another set of headaches, not the least of which are rapidly changing exchange rates and high bank fees for transmitting cash back to Dubai. "Using dealers and distributors is good for cash collection, but then you have to keep them on a tight lead so that the money comes back in without problems," says Einstein.

These problems are tough enough, but Showtime, Orbit and the other regional pay TV platforms also have to work within an environment where at any moment their systems could be outlawed.

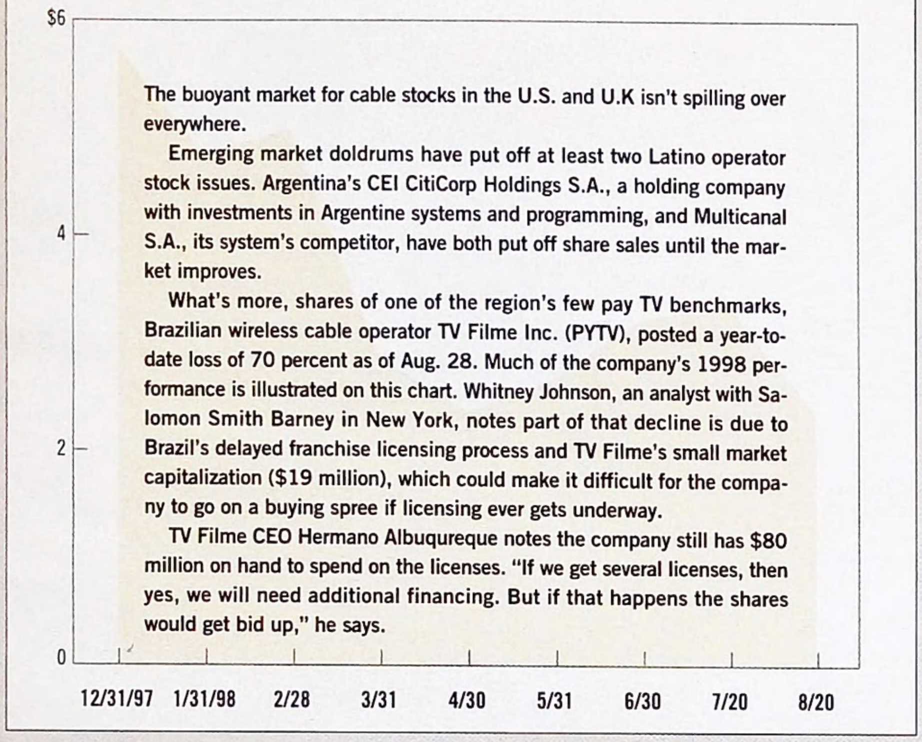
A dish ban in Saudi Arabia instituted in 1995 levied fines of $US133,000 per box, and police were given powers to shoot at satellite dishes. The ban is ignored, but the legislation is still very much in place.

A unique business trait the Gulf shares with Australia is a heavy amount of churn during the summer. In the 140-degree heat and humidity of the region, it is traditional for well-heeled Arabs to leave for cooler spots — and churn out. Showtime now plans for "summer churn" by not disconnecting too soon and pushing hard for annual fees, throwing in two free months for those who pay in advance for an entire year.

Einstein says Showtime is doing well. Barely four months ago, the company was claiming more than 50,000 subscribers (made up of viewers paying for at least one Showtime channel). "Now," Einstein says, "We are well north of 75,000, and it's climbing steadily. The momentum in the past four months has been unbelievable." ■

Taking Stock

LATINO OPERATIONS — SWEATING EQUITY



The buoyant market for cable stocks in the U.S. and U.K isn't spilling over everywhere.

Emerging market doldrums have put off at least two Latino operator stock issues. Argentina's CEI CitiCorp Holdings S.A., a holding company with investments in Argentine systems and programming, and Multicanal S.A., its system's competitor, have both put off share sales until the market improves.

What's more, shares of one of the region's few pay TV benchmarks, Brazilian wireless cable operator TV Filme Inc. (PYTV), posted a year-to-date loss of 70 percent as of Aug. 28. Much of the company's 1998 performance is illustrated on this chart. Whitney Johnson, an analyst with Salomon Smith Barney in New York, notes part of that decline is due to Brazil's delayed franchise licensing process and TV Filme's small market capitalization ($19 million), which could make it difficult for the company to go on a buying spree if licensing ever gets underway.

TV Filme CEO Hermano Albuquerque notes the company still has $80 million on hand to spend on the licenses. "If we get several licenses, then yes, we will need additional financing. But if that happens the shares would get bid up," he says.

Standard Buller? Tech

WHEN PEOPLE TALK ABOUT CABLE MODEMS, the subject of standards is sure to arise. That might also extend to the shares of companies that make them. Terayon Communications Systems Inc. (TERN) went public Aug. 18 at $13 and rose as high as $15.19 before falling back to $13 by Aug. 28. Competitor Com21 Inc. (CMTO) went public in May at $12, and its shares also rode choppy waters before surging to a high of $25 in mid July — though that gain's been erased amid the general market decline. So how will Terayon fare down the line?

Will Strauss, president of researcher Forward Concepts, attributes Terayon's bumpy start to the market slide and its synchronous code division multiple access, or S-CDMA, technology, which doesn't fall under the data over cable service/interoperability specification (DOCSIS) standard guidelines. "It's meritous, but because it's different, it may cause some pause," he says. Terayon is hedging, with DOCSIS-compatible technology in the pipeline.

Land Rush On An Island

U.K. cable

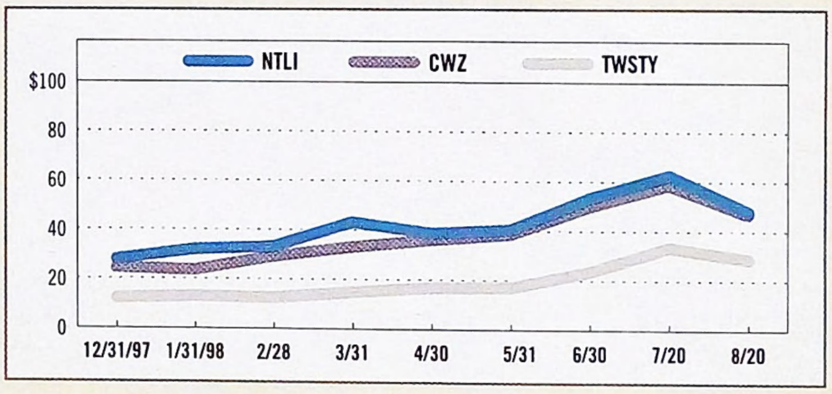
INVESTORS WHO MISSED OUT on the through-the-roof runups of U.K. cable stocks in the first half of this year could still get some bang for their buck.

Consolidation — which has left only three major players in the market — helped fuel the earlier triple-digit gains of shares in companies like Telewest Communications plc (TWSTY), Cable & Wireless Communications plc (CWZ), and NTL Inc. (NTLI). Now its time to savor the benefits of broadband.

Despite considerable pullbacks from highs reached in mid-July, the stocks still boast impressive year-to-date gains: As of Aug. 28, Telewest was still up 107 percent this year, while Cable & Wireless rose 78 percent and NTL posted a gain of 48 percent.

"This is a land-rush for access to the home," says Ted Henderson, an analyst with Janco Partners Inc. in Denver, who also uses the "land rush" phrase to describe the Stateside runup. "These are franchises with the broadband pipeline, and the value of that pipeline has done nothing but accelerate."

The U.K. stocks, whose ascents began slightly after the U.S. operators kicked off their runup, should also benefit from continued votes of confidence in cable, where in late July billionaire Paul Allen plunked down $4.5 billion for 1.25 million-subscriber MSO Charter Communications Inc.



THE PAY TV PAYOUT

Company	Ticker	Exchange	Close 7/20/98	Close 8/20/98	Percent Change	52-Week High	52-Week Low
AsiaSat	SAT	NYSE	$17.75	$14.44	-18.66	$30.00	$12.87
At Entertainment	ATEN	NAS	$14.06	$11.25	-20.00	$19.37	$9.00
Bay Networks	BAY	NYSE	$34.81	$32.88	-5.57	$41.87	$21.37
British Telecom	BTY	NYSE	$137.31	$137.13	-0.14	$149.18	$60.75
BSkyB	BSY	NYSE	$50.38	$46.00	-8.68	$50.50	$34.12
Cablevision Systems	CVC	AMEX	$86.50	$85.13	-1.59	$91.87	$24.56
Cable & Wireless	CWZ	NYSE	$58.75	$46.88	-20.21	$59.12	$17.75
Canal Plus	CNLP	Paris	$192.08	$198.58	3.39	NA	NA
Com21	CMTO	NAS	$23.75	$16.00	-32.63	$25.00	$12.87
Comcast U.K.	CMCAF	NYSE	$17.63	$17.06	-3.19	$18.68	$8.62
Deutsche Telekom	DTEG	Frankfurt	$18.87	$28.84	52.87	NA	NA
Flextech plc	FLXT	London	$8.44	$9.09	7.78	NA	NA
General Instrument	GIC	NYSE	$27.38	$26.56	-2.97	$29.50	$12.62
Grupo Televisa	TV	NYSE	$42.56	$26.00	-38.91	$43.25	$24.43
Hong Kong Telecom	0008	Hong Kong	$1.97	$1.94	-1.56	NA	NA

Company	Ticker	Exchange	Close 7/20/98	Close 8/20/98	Percent Change	52-Week High	52-Week Low
Matav	MATVY	NAS	$25.88	$24.25	-6.28	NA	NA
Multicanal Particip.	MPARY	NAS	$5.13	$4.50	-12.20	NA	NA
News Corp.	NWS	NYSE	$33.31	$28.69	-13.88	$33.50	$17.00
NTL	NTLI	NAS	$62.75	$48.13	-23.31	$65.00	$20.12
NTT	NTT	NYSE	$44.88	$40.00	-10.86	$50.31	$34.56
PanAmSat	SPOT	NAS	$52.63	$50.50	-4.04	$66.12	$31.62
Scientific Atlanta	SFA	NYSE	$25.44	$23.75	-6.63	$27.93	$14.00
Telebras	TBR	NYSE	$120.75	$86.00	-28.78	$147.68	$83.06
Telcom Italia	TI	NYSE	$88.38	$83.56	-5.45	$90.87	$57.75
TCI	TCOMA	NAS	$40.81	$37.50	-8.12	$44.00	$17.31
TINTA	TINTA	NAS	$24.63	$21.19	-13.96	$25.68	$15.37
Telefónica	TEF	NYSE	$154.81	$139.50	-9.89	$158.12	$69.87
Telewest	TWSTY	NAS	$33.63	$28.88	-14.13	$34.37	$11.50
TV Filme	PYTV	NAS	$3.88	$2.38	-38.71	$9.75	$1.87
UIH	UIHIA	NAS	$19.06	$14.69	-22.95	$19.43	$9.75

SOURCE: NORDBY INTERNATIONAL

ONE ON ONE

The Telebras Principle

William Mahoney Speaks With Corrado Varoli

For those watching the Latin American telecommunications business, the big event of the summer was July's $19 billion government selloff of Telecomunicações Brasileiras S.A., or Telebras, Brazil's state-owned telco. The sale price was an impressive 64 percent higher than the minimum the government had set for its controlling stake. More significantly, it marked the largest Latin American privatization ever.

The major buyers were Spain's Telefónica S.A., MCI Communications Corp. of the United States, Portugal Telecom and Telecom Italia.

One of the key financial executives involved in the sale was Corrado Varoli, a managing director and head of the Latin American mergers and acquisitions group at Morgan Stanley, which served as an advisor to the Brazilian government. He spoke from New York by telephone about the reverberations he sees from the Telebras deal.

Most immediately, he sees a positive impact on the allocation of the so-called "mirror concessions," for which three licenses will be auctioned to companies, enabling them to compete in the fixed-line business with each of the three fixed-line Telebras subsidiaries sold off July 29.

Strong interest at a public hearing on Aug. 13 came from the likes of BellSouth Corp., France Telecom and GTE Corp., as well as several technology companies.

Mahoney: What do you think the success of the Telebras sale will mean for the future auctions?

Varoli: For the mirror licenses, clearly there will be a lot of interest. There are certain types of companies, particularly the U.S. companies, that prefer to be the newcomer — I mean the competitors.

Because of that, I think we will see, to some extent, different companies participating in the mirror company process than the ones that participated in Telebras. But, also, companies that won Telebras would like to get certain fill-in properties as well, so they'll find a way to participate.

For instance, if you are only in the fixed-telephony business in São Paulo, and you want to find a way to compete in Rio de Janeiro, you'd love to create a consortium where you can participate and bid for Rio in the mirror license. So, I think there will be both types of bidders, as well as the cellular bidders.

Mahoney: What about an effect on the pay TV licenses?

Varoli: I think that's a little bit different. There haven't been a lot of bidders. The strongest player, [Organizações] Globo, is really the one that has bid the most. In some of their main markets, like Rio, no one else bid, so Globo's effectively guaranteed to have a monopoly in Rio. No one is willing to go against them, and they bid in a lot of the markets that they are not really in right now — the markets that don't have cable television.

> *These are very simple figures that companies can convey to their markets.*

Outside of them, the other bidders were really smaller players that are really value-driven, but I'm not sure that, ultimately, they're going to build a competing cable business to Globo. So, I think there is less interest in the cable licenses.

Mahoney: You've had the advantage of working across several different business sectors in Latin America, and I wonder if you can characterize the degree of interest that you are finding in telecommunications, compared to other sectors such as energy and airlines.

Varoli: The telecoms sector, particularly because of the Italian phone company and the Spanish phone company, has had a lot of interest over the years. If you look at Telefónica's business plan today, and you looked at Telefónica's business plan 15 years ago, it was basically the same in terms of geographic reach. Latin America was a priority then; it is a priority now. Same with the Italian phone company.

People were waiting for this privatization in Brazil, and it was sort of the No. 1 priority on some companies' lists, and it had been for a decade. Some people thought that, because of the Asian crisis, the government was not going to be successful. The Asian crisis had zero to do with this. People were interested, regardless of what's happening in Asia.

Mahoney: It's a bit of a simple way to look at it, but you can throw out such figures as Brazil only having 11 phones for every 100 people, and that only 53 percent of long-distance telephone calls connect on the first attempt. Regarding Telebras, that's very sexy for people looking to grasp what amount of potential lies ahead.

Varoli: That's right. These are very simple figures that companies can convey to their markets.

Mahoney: There have been a lot of very high-profile investments on a smaller basis in the cable business in Latin America, but I think those stories are more difficult to make to the analysts because of the way the whole cable television business works. What is your feeling about the investment activity?

Varoli: We're very involved in a lot of these things. I've advised Globo over the years in, frankly, all of the deals that they've done, including the deal [for Sky Latin America] with News Corp. I think it's dramatically different.

There really are no large cable television companies in Europe that have an interest in getting involved in the cable business in Latin America. And without a lot of interest from the European cable companies, which frankly doesn't really exist, there really hasn't been the same level of strategic interest in cable in Latin America. So the interest that you see in pay television in Latin America comes from the programmers.

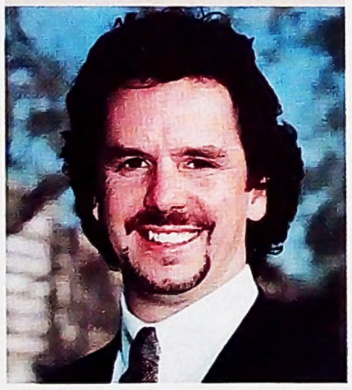
The U.S. cable companies would be the only logical investors, and they are generally under-capitalized. They're facing significant investment plans in the United States to be able to carry more channels and do telephony.

CORRADO VAROLI

TITLE:
Managing director, head of the Latin American mergers and acquisitions group, Morgan Stanley.

BACKGROUND:
Joined Morgan Stanley in 1989 after working in the mergers and acquisitions department of Chemical Bank. In the past has worked on deals in North and South America, Europe and Asia, but now focuses exclusively on Latin America.

STATISTICS:
37 years old; based in New York.



Mahoney: What did you make of watching companies such as MediaOne International and United International Holdings Inc. sell their cable systems stakes in Argentina?

Varoli: I think those guys are smart investors, and they're really value-driven, so they know when to get in and when to get out. They got into Argentina and Chile and Brazil — UIH, for instance — at a time when growth was high because penetration was extremely low.

But growth has faded, and the new growth is coming from additional channels, Internet and telephony. Their timing was good, in terms of getting out.

Mahoney: What about Hicks, Muse Tate & Furst Inc. and CEI CitiCorp Holdings S.A.? Are they value-driven investors as well, or are they in it for the long haul?

Varoli: Hicks, Muse has demonstrated an ability and willingness to dedicate capital. They haven't sold anything yet, so it's unclear how long they're in it for. Clearly, they're value-driven. They're not there to manage the business for the next 20 years, but I'm not sure what they're thinking in terms of exit, whether it is five years, or whether it is an IPO [initial public offering]. Theirs is a very gutsy move. ■

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